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ABSTRACT

This catalog of concepts in the pedagogical domain of teacher education organizes the critical concepts and provides definitions, indicators, and illustrations of the concepts. Chapter 1 presents a rationale for the selection of concepts in teacher education and discusses pedagogical domain, interactive teaching, the format of concepts in this catalog, and aspirations for this catalog. In the eight remaining chapters cognitive content categories, control of content, groups, and individuals are discussed, and concepts are defined in terms of each topic. A six-item bibliography concludes chapter 1. (PD)

ED 098175

A Catalogue of Concepts in the Pedagogical Domain of Teacher Education

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The Multi-State Consortium on Performance-Based Teacher Education is pleased to make available to interested readers this catalogue of concepts in the pedagogical domain, developed under the direction of the Leadership Training Institute for Protocol Materials.

The Consortium wishes to acknowledge its gratitude to B. O. Smith, director, and Donald Orlosky, associate director, of the Leadership Training Institute for permission to publish and distribute the catalogue.

Readers interested in developing performance/competency based programs should find this publication particularly helpful.

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A Catalogue of Concepts in the Pedagogical Domain of Teacher Education

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FOREWORD

Beginning in the fall of 1970, a group of teacher educators from ten institutions across the country undertook the development and production of a new type of instructional material for the training of teachers. This type of material was intended to be a means of developing interpretive competencies in teachers. More precisely, such materials were to "instance" or illustrate basic concepts drawn from both the pedagogy and the subject matter content of teaching. In the book Teachers for the Real World, B. Othanel Smith had used the term "protocol materials" to identify, describe, and establish the need for such interpretive material.

From the beginning, a high priority was given to the development of protocol materials in the pedagogical domain, particularly those that focused on teacher and pupil behavior in the classroom. Classroom interaction is, after all, very nearly the "heart" of teaching. With a practical limitation in funding for the actual development of materials, it seemed wise to give a high priority to this area. The attempt in this catalog has been to identify, define and illustrate a set of significant concepts in this critical area. The purpose of the catalog is to provide developers of protocol materials with a conceptual resource.

Perhaps only someone who was directly involved in the development of those first protocol materials can fully appreciate what has been attempted and accomplished in this catalog. At that point, now several years ago, we were quite simply "at sea" with few steady moorings. Attempting to invent or discover a format that would successfully illustrate a few of a seemingly endless assortment of ill-defined concepts about which there was little consensus resulted in a mal de mer that can readily be aroused, in memory, to this day. Frequently, it was only the personal influence and guidance of Bunnie Smith that kept us on course.

As is pointed out in the Introduction to this catalog, the problems of format--that is, of what actual protocol materials are like--is steadily being resolved. And with this catalog, the problem of the content of protocol materials--that is, what concepts they concern and how those concepts might be illustrated--also becomes open to resolution. With continued efforts such as this, the future development of protocol materials should be a much more manageable and rational enterprise.

The director of the project that produced this catalog, Bryce Hudgins, was particularly qualified to undertake it. First, he is a knowledgeable scholar who has for some time devoted much of his work to the pedagogical domain in teacher education. Second, he himself was one of those first developers who struggled with the development and production of protocol materials. That experience certainly accounts for some of the persistence and thoroughness that has gone into the research underlying this catalog.

I do not, however, want to suggest in any way that the present document is of potential interest only to developers. It should be of decided interest to teacher educators and practitioners as well. Attempting as it does to introduce some conceptual order into an important area of teacher education, it should have value for teacher educators who are involved in program improvement, course improvement, or curricular study. Finally, but not least, the teacher educator should find it a provocative document for assessing the content of his own courses.

A final word. I do not necessarily agree with the selection or labelling of every concept that is cited in this catalog, nor will any other single user. In fact, few users will even agree among themselves about whatever problems it may have of commission or omission. The point is that at least we will know more precisely _what_ we are disagreeing or agreeing about when we contend with one another concerning the content of teacher education. It is that fact (made possible by the explicit definitions and clear examples included in the catalog) that may help to reduce the conceptual disarray in our professional field.

David Gliessman,
Director

National Center for the
Development of Training
Materials in Teacher
Education

Indiana University
Bloomington

April 23, 1974

This catalog of concepts in the pedagogical domain of teacher education was developed under the direction of the Leadership Training Institute on Educational Personnel Development. The project director, Dr. Beyce Hudgins, was asked to compile a list of concepts to enable the future development of Protocol Materials to be continued in the areas of most importance. A companion volume by Dr. Richard Turner of a catalog listing teaching skills was previously completed under LTI auspices. As a result of these two documents the future production of Protocol and Training materials can be tied to educational literature and the realities of teacher performance.

When the training program on protocol materials began in 1970 with support from the United States Office of Education, each project director was granted considerable freedom in the selection of concepts he wishes to exemplify. Issues about concept selection, analysis, and definition emerged as training in the production of protocol materials progressed. Although considerable gain has been made in the production of protocol materials, it is evident that the systematic selection of concepts and the establishment of priorities for their portrayal is a much needed improvement. This catalog organizes the most critical concepts in the pedagogical domain of teacher training and provides definitions, indicators, and illustrations of the concepts.

This pioneer effort is far from exaustive but it does provide a list of concepts with some degree of rigor in respect to definition and selection. Credit for this difficult task must be given to the project director and those who worked with him although the LTI shares in responsibility for the contribution of this effort to the improvement of teacher preparation.

Donald E. Orlosky,

Director, Leadership Training Institute
on Educational Personnel Development

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I.

A Catalogue of Concepts in the Pedagogical Domain of Teacher Education: Rationale for Selection

A Catalogue of Concepts in the Pedagogical Domain of Teacher Education: Rationale for Selection

If the protocols program is to have the ultimate impact on national teacher education that is hoped for, it must achieve a variety of objectives. Several of these objectives demanded early attention, and they have been realized to a marked extent. For example, technical criteria which would insure that audiences can comfortably see and hear what is being presented had to be established, and production staffs capable of meeting those criteria had to be trianed or assembled. A cadre of competent materials developers had to be established. These people needed time and experience to learn how individual protocols that teach concepts could be produced. Few would quarrel with the early commitment of time, resources, and training that was utilized in handling these critical matters of production. However, the necessity for conceptual mapping of the pedagogical domain of teacher education was also recognized. Such a map could be of assistance in decision making about which concepts were to be developed into protocols and also provide guidance to individual developers as they select concepts for development. This effort has been conceived of as a catalogue of concepts that will have two functions. It will begin the conceptual mapping of the pedagogical domain by identifying appropriate concepts that appear in the literature of teacher education, estimating the overlap or redundancy among such concepts and identifying ostensible gaps within the domain, and the kinds of concepts needed to fill those gaps. Secondly, statements about individual concepts in the catalogue should provide the developer with salient and significant information to guide the process of portraying the concept. These statements must contain definitions of the concepts, specification of their essential attributes, and brief examples that might serve as preliminary sketches for concept portrayal.

Role of Concepts in Teacher Education

Concepts are the building blocks of thought. They outline the content of disciplines. Thus the psychologist thinks in terms of "stimuli" and "responses," of "reinforcement" and "extinction," of "learning," "forgetting," "retention," and "interference." For the sociologist, the arena of his thinking and work are delineated by concepts such as "group," "norm," "interaction," and so forth. Although we frequently overlook the fact, what distinguishes the professional or scientific discourse of one group from another, or from the language of laymen, is the specialized concepts it employs to draw attention to issues and phenomena that have deeper and more fully delineated meaning for the reference language group than for others. Much of the potency of a shared and specialized vocabulary exists not only in the individualized concepts themselves, but also in the increased analytical power made available when relationships among sets of those concepts can be established. Relationships of this order are to be found in all areas of human inquiry that involve logical, propositional, and theoretical thinking. Nor is this generalization restricted to the provinces of the purely academic and theoretical. Great strides in the technological base of professions such as medicine and engineering have been accompanied by vast increments in the level of conceptual and relational sophistication. These have enabled practitioners in the various specialties of each profession to identify and solve complex problems that affect the welfare and future of mankind, which previously could not have perhaps been formulated because of the lack of appropriate conceptual and theoretical development.

When we shift our attention to the field of teaching, and particularly to the area of teacher education, we discover that relatively little is available in the area of specialized vocabulary or set of concepts about teaching, and that virtually no propositional knowledge has been generated. Of particular concern is the fact that individual concepts about teaching are not widely shared among practitioners. Finally, numerous scholars of education have pointed to the paucity of technical language available to teachers for talking about (and therefore having some chance of defining and solving problems) issues that occur in the classroom. In short, no language of teaching exists that provides a set of intellectual tools by which means practitioners can isolate areas of difficulty and subsequently comprehend and interpret them through reliable and widely shared forms of communication. Most concepts that teachers possess are not universally accepted, and may be quite personalistic; therefore the users are robbed of the necessity for articulation and justification because there is no communication about them. Concepts about teaching available to teachers are often so limited in scope that the individual teacher is left with nothing but his own powers of insight and innovation to survive in the classroom and to try to improve the instruction he gives his students.

We believe that the foregoing characterization of teacher education as a field in conceptual disarray is substantially accurate. The principal question that we must confront concerns the nature and the extent of the contribution to be made by a catalogue of concepts in teacher education.

We must make clear that no catalogue of concepts can altogether eliminate the conceptual problems of this dimension of teacher education. However, it can facilitate the process of conceptual clarity if two major objectives can be achieved. The first of these is to specify and delineate what is meant by the "pedagogical domain of teacher education." The second is to begin the difficult and time-consuming process of identifying, defining, and exemplifying appropriate concepts, organized according to their functions, within the broader domain of pedagogy.

Pedagogical Domain

An analysis of the phrase "pedagogical domain" was one significant element in the preliminary effort to organize the catalogue. No clear and widely shared referents exist for the term. We have construed it broadly, suggesting that the pedagogical domain encompasses those settings and those people which influence the content which is to be taught to pupils, and those methods or procedures employed for purposes of conveying content. The domain includes decisions about the choice of content and its communication. This means that it is not only concepts about the teacher, or even about teaching or pupils, that define the pedagogical domain, but also that concepts about relationships between teachers and their peers, teachers and the bureaucratic structure of the schools, including relationships among teachers and administrators, teachers and boards of education and other community groups, are proper elements of the definition of the domain. Figure 1 represents an effort to portray the major layers of concepts required to exhaust this conceptual domain.

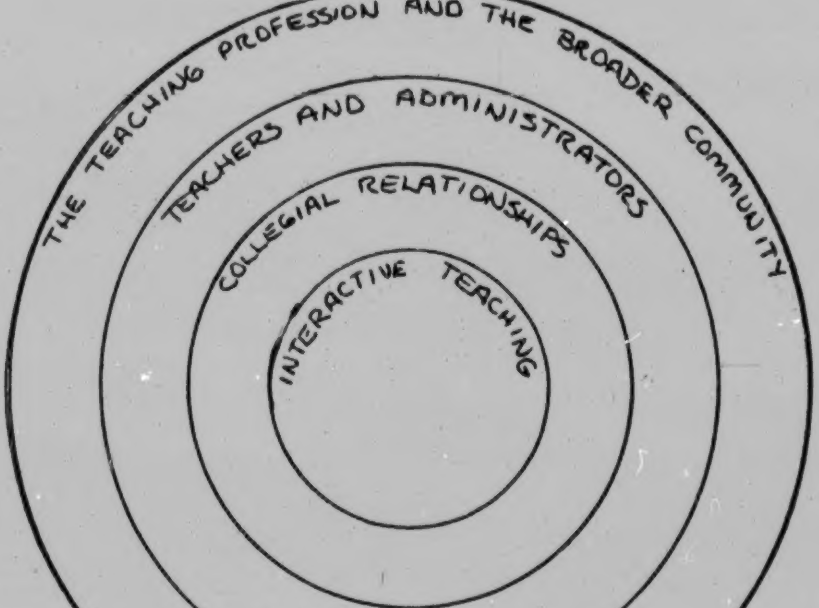
THE TEACHING PROFESSION AND THE BROADER COMMUNITY
TEACHERS AND ADMINISTRATORS
COLLEGIAL RELATIONSHIPS
INTERACTIVE TEACHING

Figure 1: Perspectives on the Pedagogical Domain: Differences in Conceptual Focus

The pedagogical domain as it is delineated in Figure 1 is much more extensive than had been anticipated prior to our analysis of it. Priorities had to be established to guide the selection and delineation of some portion of the domain as opposed to the totality of the domain. Since teaching practice is more likely to be guided by concepts that have an ostensible, immediate application to the daily tasks of teaching rather than by more remote concepts, even though the latter may have great theoretical potency, the decision was made to develop a catalogue of concepts pertaining to interactive teaching. This decision was based upon the belief that the preponderance of concepts that are most central to the daily activity of teachers and pupils are to be found in that area. Thus one criterion established for the selection of concepts in the catalogue is that they should have proximity to the ongoing classroom activities both of teachers and of pupils. This decision also demanded that we try to analyze what is meant by the term "interactive teaching." From that analysis ultimately emerged the basic categories of pupil outcomes and teacher behaviors that have guided the development of the catalogue.

At the same time, concepts that lie within the other rings will also eventually require conceptual development. For example, the ring labeled "teacher collegial relationships" might be expected to contain relatively few concepts, but concepts of considerable importance and explanatory power. To the best of our knowledge, these concepts have not been systematically collected, and their import analyzed as we believe is possible through the development of catalogues. At a guess, however, that ring should yield concepts that clarify relationships of a pedagogical sort among teachers as they function as peers. Teachers manifestly or subtly communicate to one another expectations regarding how children are to be treated and how discipline is to be maintained, what are acceptable amounts and kinds of content to be covered, and the forms in which content is to be conveyed. The intriguing analyses of work groups other than teachers strongly imply that the use of sanctions and rewards occurs in all sorts of peer working relationships to control both quality and quantity of work accomplished, and to govern relationships among workers, clientele, and superiors. Books such as Waller's classic Sociology of Teaching and the recent monograph Small Town Teacher, by MacPherson, suggest that these principles and their component concepts are applicable to teaching as well.

The point of this discussion is to illustrate that concepts about interactive teaching, as crucial and as central as they are to the domain of pedagogical concepts, do not exhaust the need for analyses of the pedagogical domain. Nor can any such catalogue developed around a fraction of the domain begin to show the integrated richness of the domain, as concepts from one level influence the operation of those at another, and are in turn, influenced by concepts associated with other segments of the domain. With the present catalogue of concepts about interactive teaching to serve as a prototype, other areas of the domain should be both more easily and more quickly developed. For example, decisions about criteria for selecting concepts, and others bearing upon their portrayal, having been made once, should have broad applicability in other catalogues to follow.

Interactive Teaching

Interactive teaching includes all the events and transactions that occur in the classroom during the time that the teacher and his pupils are mutually engaged in implementing the educational program. These transactions may in part be based upon plans and objectives that have been worked out in advance, but interactive teaching refers only to the transactions themselves. Conceived in this way, interactive teaching occurs within a social system that is composed of four mutually dependent elements. These elements include (1) the teacher, (2) the content which represents the curriculum or the materials to be learned, (3) the pupils as a social group or series of social subgroups, and (4) the pupils considered as individuals operating within a social context. Of course elements (3) and (4) are simply different perspectives for labeling the same people, but alternative perspectives of this sort appear quite indispensible for the teacher. Another qualification in our delineation of the elements as constituting a social system needs to be made. When we say that the elements are mutually dependent, we do not mean that they are of equal weight in the system. Common observation and the weight of research evidence about classroom functioning testify to the major domination of the classroom that is built into the teacher's role. The proportion of concepts in the catalogue that reflect what teachers do and how they influence pupil outcomes is great. Nonetheless the teacher's behavior is dependent upon the other elements. If group morale sags, the teacher is motivated to find ways to restore it. If an explanation of a scientific principle is not clear to the children, the teacher must alter his strategy and search for more meaningful ways to communicate. If a particular body of content bores pupils, the teacher may omit it, alter it in ways designed to make it more stimulating or use his authority to compel pupils to endure the dullness. The specific ways in which the teacher's interactive role with pupils and with content is modified would be virtually countless.

Although we think it is appropriate to picture interactive teaching as embedded in a social system of the kind described here, the interrelationships and the mutual dependencies among concepts and variables that are implied by such a system far outdistance the ability of our current knowledge to identify and define them or to specify the empirical values of the relationships. The store of propositional knowledge about interactive teaching is meager. The view that we have adopted in developing the catalogue is to disregard issues of propositional knowledge or whether the behavior represented by one concept is a function of another. Instead we have concentrated upon identifying and developing concepts about the behavior of the teacher in interactive teaching and about the behavior of pupils, either as givens or as outcomes, in three major subdivisions: Content, Groups, and Individuals in a Classroom Context. The fourth element, the teacher, pervades all three of the major subdivisions. How this scheme has been used to generate the broad rubrics of the catalogue can be seen from Figure 2.

The bottom branches of Figure 2 indicate the major categorical subdivisions of the catalogue, but in most instances those categories are further elaborated. Without in any sense suggesting that the catalogue has taxonomic properties, there has been an effort to group concepts within the broader categories. For example, concepts pertaining to how teachers control content in interactive teaching are grouped depending upon whether they refer to broad approaches or styles of controlling content, whether their function is principally one of regulating rate, amount, or intellectual level of the flow of content, or whether the concept involves evaluation of ideas in the content, or as expressed by participants. Similarly, concepts about pupil groups are organized, with some exceptions, according to whether they deal with issues of group morale, group productivity, or the control (in a social sense) of

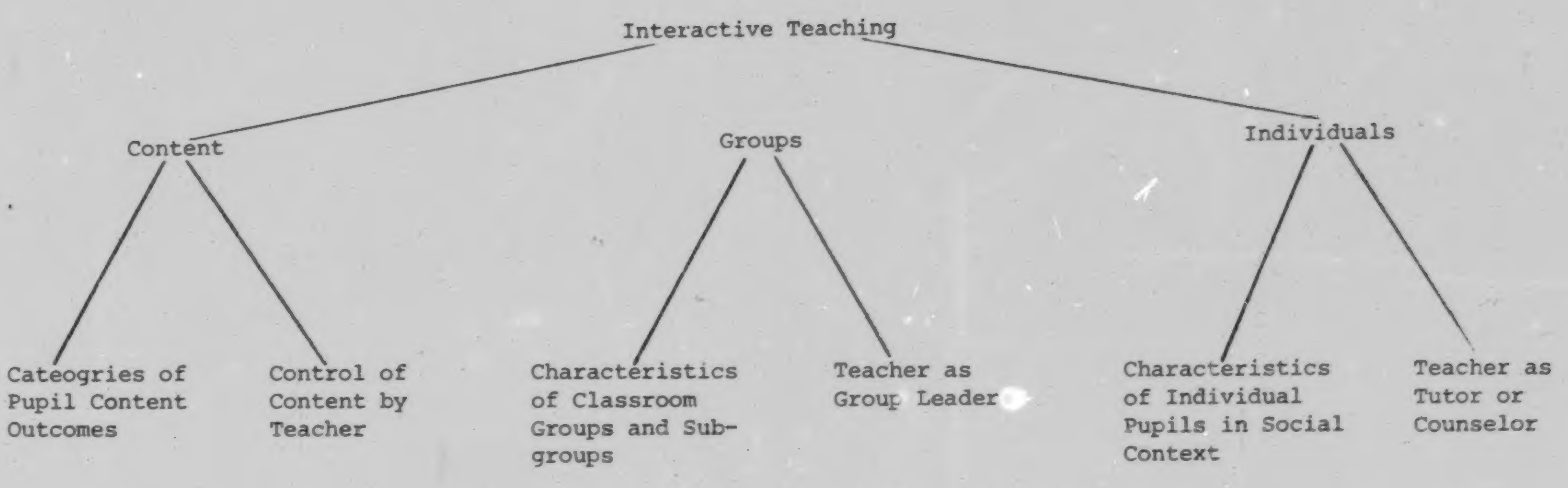
Interactive Teaching
Content
Groups
Individuals
Cateogries of Pupil Content Outcomes
Control of Content by Teacher
Characteristics of Classroom Groups and Sub-groups
Teacher as Group Leader
Characteristics of Individual Pupils in Social Context
Teacher as Tutor or Counselor

Figure 2: Catalogue Format: Derivations of Categories from the Concept of Interactive Teaching

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groups. A similar principle has been utilized in organizing concepts that deal with pupil content outcomes.

Format of Concepts Within the Catalogue

The preceding discussion has focussed upon the chain of reasoning used to limit and define the conceptual domain to be represented by the catalogue. By defining the domain, we include the specification of the concepts which it contains. We turn our attention now to the question of what the reader will encounter when he consults the description of a particular concept in the catalogue. Once the developer of protocol materials has located the concept or concepts that he wishes to develop, the dimensions and magnitude of the problems confronting him undergo a shift. He must now become concerned with issues about the production of protocol materials, or what has earlier been referred to as "the portrayal of concepts" (Hudgins, 1972). In that monograph we established three kinds of basic issues that the developer must contend with as he translates abstract labels into vital protocol materials for teacher education. The first two of these have been salient to the format adopted for descriptions of concepts in the catalogue; the third remains essentially a matter to be determined by individual developers. The issues referred to are (1) analytic issues, (2) didactic issues, and (3) issues of outcomes.

Analytic issues pertain principally to the clarity and comprehensiveness of statements of the concept. Attention to concept analysis is a first and critical stage in the production process. Little or no attention is paid in this stage to arranging conceptual displays for purposes of teaching; rather, emphasis is upon defining as fully and as clearly as possible the meaning of the concept, and the elements or attributes that would have to be included to insure its comprehensiveness. Analytic issues are considered in the write-up of each concept in the catalogue by means of the first two elements of those descriptions, namely, definition and the presentation of indicators. Tables I and II contain illustrations of two concepts that will appear in the Content dimension of the catalogue. They may be referred to in connection with this discussion of format.

Table I

A Sample Concept to Appear in the Catalogue: From the Cognitive Section of Categories of Content, Reception Learning.

Comparison

Definition:

A pupil statement indicating the similarities and/or differences between two or more items. The statement is recalled or reconstructed from a prior instructional presentation.

Indicators:

1. The verbal content of a comparison is similar to that of the concept comparing (q.v.), which is subclassified under Productive Thinking. The distinction between the two concepts is that in reception learning the pupil does not produce the comparison himself.
2. The term comparison is used to represent statements by pupils that contain only comparisons, or only contrasts, or which may contain both.

Illustration:

As a response to the teacher's question, following a presentation by the teacher on closed plane figures, a pupil says, "A triangle has only three sides but a square has four." Any illustration of the concept must include the fact that the original comparison was expressed in the teacher's presentation.

Source:

Smith and Meux, 1970, pp. 116-121.

Table II

A Sample Concept to Appear in the Catalogue: From the Cognitive section of Categories of Content, Productive Thinking

Comparing

Definition:

A cognitive process in which pupils note and indicate similarities and/or differences between two or more items on the basis of the pupil's original analysis of the item.

Indicators:

1. Comparing often involves a two fold process, and results in two kinds of products: comparisons and contrasts.
2. The outcomes of comparing may be very similar to those of comparison (q.v.). The fundamental differences reside in the source of the comparison. In comparing, the product is the result of the pupil's productive thinking. Comparison, on the other hand, simply involves restatement by the pupil of an intellectual product that he has heard or read.
3. The character and complexity of the comparison that results from comparing may vary in several ways, depending upon the structure of the pedagogical control that brought about the comparing behavior. For example, such controls, whether those of the teacher or of the textbook, may:
    a. provide one or more bases of comparison
    b. provide no basis of comparison
    c. provide one item and a basis for comparison, and request that the pupil provide a comparable or contrasting item.

Illustrations:

1. Sixth graders have constructed a table to compare two explorations. The columns of the table are headed "Columbus" and "Apollo 11" respectively. Rows are labeled "size of crew," "type of vehicle," "source of energy," "average speed," "distance traveled," "cost of voyage," "significant discoveries." The pupils are formulating comparisons and contrasts, using the data.

2. Two of the variations indicated in Indicator #3 above are illustrated here.
    a. When asked whether Chicago or Detroit is larger, a pupil refers to a population table and responds "Chicago." The control in this case provides a basis of comparison; size. Note that the pupil's single word response is the end product of the process of comparison.

b. When asked to compare Hamlet and Macbeth, a student responds: "They were both royalty. Macbeth was motivated by ambition, Hamlet by revenge. Both were troubled by their consciences. Each was killed, but in different ways..." Here no basis of comparison is provided.

Sources:

Smith and Meux, 1970, pp. 116-121; Aschner and Gallagher, 1965; Taba, 1966, p. 39.

The major source is Smith and Meux. Aschner and Gallagher classify the concept under Association. Taba discussed "Identifying Common Properties" as a process involved in Grouping.

(The material that appears in Tables I and II was developed for the catalogue by Joseph Gore.)

Didactic issues, on the other hand, involve the developer in considerations of how a concept is to be portrayed in order to maximize its effectiveness as a teaching material. At a minimum, didactic issues demand that the developer present scenes or episodes that are clear and relatively simple examples of the concept. Since the concepts with which teachers have to deal in class are seldom encountered at such levels of simplicity, the developer would ordinarily need to work out strategies for rendering protocol materials increasingly more lifelike. A rationale for this procedure and suggestions for achieving didactic success are treated extensively in Hudgins (1972). For purposes of the illustration of concepts in the catalogue, the didactic issues are treated by means of one or more brief illustrations of the concept in a classroom setting. When confusion with closely related concepts appears imminent, examples have been added to aid discrimination between the two. The examples that we have provided in the catalogue are not intended to be prescriptive or in any way to limit the conceptual or artistic freedom of the developer. Presumably most of these concepts could be illustrated in almost limitless ways. The intention is simply to provide one or two ways in which the concept could be portrayed with fidelity to the analytic development of the concept which has preceded its exemplification. As a point of clarification, we might indicate that analytic issues and didactic issues go far beyond the introduction to them that we have included in our descriptions within the catalogue. They play important and continuing roles throughout the developmental process. On the other hand, the descriptions that we have provided ought to assist the developer in his preliminary consideration of these issues and in his first attempts at portraying the concept. Finally, we have cited the major references or sources which we have consulted in the development of the majority of the illustrations. This has been done in the belief that the developer will be materially assisted by having at his immediate disposal a brief but highly pertinent set of references to which he can refer for more extensive analytic and didactic guides.

Aspirations for the Catalogue: Elaborating the Conceptual Maps of Teachers

There are two major aspirations that we hold for the utilization of this catalogue of concepts about interactive teaching. One of them is that if protocols of the approximately one hundred concepts illustrated in the catalogue are eventually produced, a new, systematic, and potentially powerful set of instructional materials will be available to teacher educators on a wide scale. If the concepts that our analysis of the domain of interactive teaching has developed are productive ones in the sense of helping teachers in training or in-service to more fully understand and interpret significant events as they occur in the classroom, then the basic purpose for which the catalogue project was originated will have been adequately achieved. The catalogue itself is an inert object, and the viability of that aspiration can be tested only when a sufficiently large proportion of the concepts identified within it have been developed and utilized in ongoing programs of teacher education. Whether such development is to occur must be decided by others. We would hope that the catalogue as it finally emerges will stimulate rather than inhibit such development. If it does, the catalogue may make some contribution toward helping to extend and deepen the conceptual base that teachers have for the explanation and interpretation of classroom events.

The second aspiration is of broader scope than the first and involves two elements. One pertains to the utilization of the catalogue, and the other to the interpretation of the catalogue as a stimulus to the generation of concepts. Throughout this discussion we have attempted to comment on the applicability of the catalogue to the work of protocols developers. It was for a similar purpose that the project was initially conceived. However, we hope and think that the conceptual framework of the catalogue, as well as its content of individual concepts, may also have applicability for many teacher educators who are not formal materials developers, but who do have responsibility for the construction of teacher education programs and courses. Thus we regard the catalogue as having this broader utility and hope that it will be so perceived and used by our colleagues in teacher education. It is not our intention that this catalogue be used in a purely prescriptive fashion, despite the fact that great thought and effort have been poured into both the classificatory system, and the development of individual concepts. We believe that the concepts which have been identified in this catalogue are important and defensible ones for delineating the interactive teaching subdomain. However, we have no basis to certify that the concepts so identified exhaust the subdomain or the categories which we have established within it. Were our work to spur others on to extend what we have begun, or even to supplant it with better reasoned and more productive formulations of the domain, we would be happy to conclude that our effort had contributed toward the more intellectually rigorous education of teachers which is, after all, the fundamental objective which all of us share.

(Acknowledgement is here made of those who have labored long and hard throughout the life span of this project to produce the catalogue of concepts. Continuing consultants to the project are Richard Derr, Case Western Reserve University; Joseph Gore, Southern Illinois University at Edwardsville; Eugene Jabker, Illinois State University; and Celeste Woodley, University of Colorado. Staff members at Washington University are Deborah Berman and Helen Wait.)

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II.

Cognitive Content Categories

Cognitive Content Categories

Concepts pertaining to cognitive content are construed as indicative of objectives about content, or as representing pupil content outcomes. The hope is that this array of concepts will function in two ways for teachers or prospective teachers. One such function is to suggest to the teacher something of the range of cognitive outcomes that appear to be possible for learners to achieve. The other is to define and illustrate them carefully in the context of interactive teaching. In this way, it is hoped that teachers may extend and deepen their comprehension of what various cognitive outcomes may look like in pupil behavior as it occurs in the arena of the classroom.

Concepts about content have been subdivided into two principal components: reception learning and productive thinking. Although we have not tried to differentiate them in the catalogue, reception learning can be further subdivided into reproductive learning and comprehension. These labels and the conceptual structure that guided the development of the components owe major debts to the writings of at least three individuals, groups, or schools; Ausubel (1968), Bloom and his colleagues (1956), and Wertheimer (1959).

Reception learning products result principally from transactions by the learner with materials of instruction, including communications from the teacher. There is ordinarily not a great demand that the pupil add his own original thinking to the ideas or information imparted by these materials. The objectives to be achieved, on the contrary, typically require him to be able to remember what he has learned. Ausubel's conception of reception learning, and the category identified as Knowledge in the "Bloom taxonomy" are instructive on this score. Thus the learner may be able to paraphrase the central elements of what he has been told, or he may yield a response that is more faithful to the original that he studied. Pupil outcomes or responses of this sort conform to what we mean by reproductive learning, and they clearly deserve classification under Reception Learning. Comprehension, on the other hand, requires that the learner demonstrate something in addition to the simple ability to reproduce a communique which has been learned at some previous time.

The term "understanding," except for all the ambiguities with which it has been charged, begins to approximate our use of "comprehension." To this concept we need to add the stipulation by Bloom that the learner is acting upon the material. According to the language of the Taxonomy of Educational Objectives, in the Cognitive Domain, comprehension is reflected by the student's ability to translate, interpret, or extrapolate from a given body of material. We have chosen to classify comprehension under the broader rubric of reception learning because of the dependence of such outcomes upon a given message, passage, or communication. The learner is not asked to create what is essentially a new product. Instead his actions reflect his ability to develop in a fuller sense what the "meaning" and "implications" of the message may be.

The importance for teachers of concepts about reception learning classified under interactive teaching is obvious. Without wishing to guess at percentages, it is apparent that a very large proportion of interactions in the classroom that deal with content do so at the level of reception learning as we have defined it. Thus the frequency with which teachers will generate and encounter behaviors of these types, and the pervasiveness of them in classroom interaction constitute important criteria for their inclusion.

Undoubtedly productive thinking occurs with significantly less frequency than does reception learning. The principal criterion to which we have appealed in including concepts about this in the catalogue is that (a) pupil outcomes of productive thinking are vital elements in the achievement of most educational objectives that pertain to the improvement of students' intellectual skills and abilities, and that (b) the more that teachers learn about such outcomes as they are manifested through interactive teaching, the more likely they are both to identify appropriate pupil behaviors when they occur, and to strive to construct arrangements in the classroom that are conducive to increased productive thinking on the part of their students. Although we do not wish to stretch the similarity too far, there are some parallels between reception learning and productive thinking. For example, reception learning includes the concept of "explanation." According to this meaning, the learner would be able to provide an explanation for an event, process, or phenomenon when the explanation has been given to him by a teacher's lecture, or by his textbook. The explanation would not in any fundamental sense be an original one as it is provided by the student, but it would presumably be complete and accurate. One kind of behavior involved in productive thinking is "explaining." In this case the student is confronted with an event, and although details about what he is told or how much direction he is given may vary from instance to instance, he is given something less than a full explanation. It is the construction and communication of an explanation which becomes his principal intellectual task. The work of Suchman (1965) provides excellent illustrations of what we here refer to as "explaining." Pupils, in this case children of intermediate grades, are shown simple physics demonstrations. These brief films end with the question, "Why (did such an event occur)?" The process through which children learn to provide explanations is a lengthy and complex one, but the point is that the learner must construct the explanation. One is not given to him. This is exactly the case for what we call "productive thinking."

We mentioned earlier that much of the conceptual argument for the organization of this section of the catalogue depends from the writings of Ausubel, Bloom, and perhaps others. In a similar way, the concepts that we have identified and defined in the body of the section owe an equally great debt to a group of investigators who have studied interactive teaching in ongoing classrooms and whose fundamental attention has been to what we call the cognitive components of such interaction. The scholars to whose work we refer include, but are not restricted to, Smith (1962, 1967), Bellack and others (1966), Taba (1964, 1966), and Ashner and Gallagher (1963, 1965). We cannot overlook the contributions that the works of these people have made to the effort to produce this section of the catalogue because they have provided us with valid models of cognitive teacher-pupil interaction.

Our task in producing concepts for this section has consisted of several elements: (1) the need to construct a conceptual framework that helps both to identify concepts which ought to be included within the category and to organize the presentation of those concepts; (2) the effort to compare concepts across systems (e.g., between Smith and Bellack) and make an initial effort at integrating these concepts rather than simply collecting all the concepts identified or created by the various investigators, and display them side by side. The latter tactic would have contributed little to an integrated view of concepts about teaching. The tactic we chose, of attempting a preliminary integration of concepts, has been successful only to a limited degree. Such efforts seem to us to be desperately needed in discussions of education, and we would hope that subsequent workers would follow the spirit of our intention, and surpass the failings of our execution. (3) Finally our effort included attempts to define, delineate, and illustrate the various concepts settled upon. As indicated elsewhere, these efforts are intended to provide a maximum amount of beginning assistance to the materials developer or the general teacher educator who wishes to expand upon these concepts and incorporate them into the curriculum of teacher education. This latter effort has been materially aided by the existence of countless examples and illustrations included in the monographs about interactive teaching to which we earlier alluded. We have drawn freely either directly or in paraphrased form upon these materials, and in each case we have cited the sources drawn upon, partly as an acknowledgement, but also as a guide to the user who may wish to consult the original material for additional examples or meanings beyond what we have been able to build into the limited confines of a catalogue.

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III.

Concepts Defined in Cognitive Content Categories

Reception Learning

Comparison

Definition:

A pupil statement indicating the similarities and/or differences between two or more items, such statement being recalled or reconstructed from a prior instructional presentation.

Indicators:

1. The verbal content of a recounted comparison is similar to that of higher order cognitive outcome of comparing. The distinction is that in reception learning the pupil does not produce the comparison himself.
2. A comparison may contain one or both of two relational products, that is, either a comparison, a contrast, or both.

Illustrations:

As response to a teacher question following the teacher's presentation on closed plane figures, a pupil says, "A triangle has only three sides but a square has four." Such a statement is a comparison in as much as the original comparison was expressed in the teacher presentation.

Source:

Smith and Meux, 1970, pp. 116-121.

Definition

Definition:

A reception activity in which the pupil states the meaning of a term which has been previously defined in the course of instruction.

Indicators:

1. The definition reproduced by the learner is presented in essentially the same terms as the original definition.
2. The definition may be presented in the form of a paraphrase. It may use language different from the original definition as long as the basic meaning of the term is not altered.

Illustrations:

Definitions are illustrated according to four different types in the sections which follow.

Sources:

Aschner and Gallagher, p. 15; Bellack, 1966, pp. 22-23; Smith and Meux, 1970, pp. 36-37; 67-88.

a. Classificatory Definition

Definition:

A definition which consists of reference to (1) a class term which subsumes the term defined, and (2) characteristics which distinguish the term defined from other instances subsumed under the same class term.

Indicators:

1. This definition may also be considered connotative, in that it refers to attributes of the definiendum.
2. The classificatory definition approximates formal, dictionary definitions more closely than exemplary or verbal equivalence definitions.
3. As a pupil-knowledge outcome, the classificatory definition may be partial, referring only to the recalled characteristics and not to the class term itself.

Illustrations:

1. In defining "onomatopoeia," a student makes the statement, "It's the use of words that sound like what they mean." This statement recounts what the student recalls of a more formal definition presented in the course of instruction. In this case, "the use of words" is the class term; "that sound like what they mean" is the attribute or characteristic. A more formal version of this definition might be the statement: "The use of words in which their pronunciation suggests their meaning." These two illustrations may be compared with the dictionary definition: "The use of words whose sound suggests their sense." (Webster's New Collegiate 2.)
2. In defining "polygon," a student states: "It's a closed figure with straight lines for sides." Here the class term is "closed figure;" "with straight lines for sides" is the attribute.
3. (Partial) A pupil defines "polygon" with the statement, "All the sides are straight lines."

b. Exemplary Definition

Definition:

A definition stated in terms of the objects to which the term is applicable by indicating one or more examples of referents of the term being defined.

Indicators:

1. The stated objects may be either abstract or concrete.
2. This kind of definition is said to be denotative in that it names referents of the term defined rather than describing the term's attributes.

Illustrations:

1. In an English class, a pupil is called upon to define the term "onomatopoeia." He responds by stating, "It's words like whiz, crash, bang, zoom, ding-dong..."
2. In an arithmetic class a pupil defines "polygon" by stating, "It can be a quadrilateral, a triangle, or a pentagon, hexagon..."

Note: "Exemplary" is the designation of Smith and Meux. Bellack uses "Denotative" for the same concept.

c. Proper Noun Definition

Definition:

A statement which provides the meaning of a term that is a name for a unique referent or a unique referent class.

Indicator:

Proper noun definitions ordinarily take a form similar to that of the classificatory definition. They refer to a general class term and to the particular attributes of the definiendum.

Illustrations:

1. A pupil has been recounting a news item about a stolen violin valued at over $100,000. He states: "The paper says it was a Guarnerius. I looked that up in the dictionary, and it means a violin made by a member of the Guarneri family. They were famous violin makers in Italy." Here "violin" is the class term. "Guarneri family of famous Italian violin makers" constitutes the connotative or attributive component of the definition.
2. An item in an elementary school geography quiz consists of a list of names to be identified, including Bangkok, Chao Phraya, and Siam. In reponse to these items, a pupil writes the following statements:
   "The capital and largest port city of Thailand is located on the Chao Phraya."
   "The most important river in Thailand flows south and empties into the Gulf of Siam."
   "Siam is the old name for Thailand."

d. Verbal Equivalence Definition

Definition:

A definition by reference to a synonym or by reference to an expression having the same or nearly the same meaning as the term defined.

Illustrations:

1. A pupil defines "schizophrenia" by saying, "It means split personality."
2. In a social studies discussion, a question arises as to the meaning of the expression "To the victor belong the spoils." Recalling a passage in the textbook dealing with the spoils system, a student makes the statement, "It means that the man who wins an election gives political jobs to his supporters."

Description

Definition:

Aspects of recounting in which the pupil gives a general account of an object, event, or state of affairs, often on the basis of first hand experience, as in an eye-witness account.

Indicators:

1. Description usually occurs during the development of material under present consideration, rather than in relation to material already considered.
2. Description may come about in response to a question, or it may occur as a voluntary contribution. If it is in response to a question, the question is apt to be on the order of
   Has anybody ever been there?
   What does this look like?
   Can you describe. . .?
3. It may take the form of an anecdotal account of some personal experience or an incidental commentary.
4. Description as used here refers to responses in which the pupil recounts what he recalls about something, the emphasis being upon cognitive memory rather than comprehension or understanding. Therefore descriptions do not exhibit the more logically structured characteristics of such cognitive operations as explaining.

Illustrations:

1. During an elementary school lesson on traffic safety, a pupil volunteers: "Last week my Dad and I saw this accident. There were these two cars, and the Buick ran into the side of the little one. The police and the ambulance both came--and their lights were flashing."
2. In introducing a fifth grade geography unit on the northwest states, the teacher has asked whether anyone has seen the Rocky Mountains, and if so what they were like. A pupil responds, "We did, on our vacation. We had to drive a real long time, until we got to a state--I think it was Colorado. And then when we could see them they were still far away and it took a long time to get there. They were real high and lots of trees. It was cold, too. There was even snow."

Explanation

Definition:

A pupil statement which provides an account of specified events or conditions in terms of processes, procedures, or cause and effect relationships. The statement represents what the student recalls of an explanation which has been considered previously in the course of instruction.

Indicators:

1. An explanation results from an effort to clarify. As pupil knowledge outcomes, however, most explanations stated by pupils represent what the student recalls of someone else's explanation for something as presented either by the teacher or textbook.
2. Explanations may be categorized according to their logical structure and the kinds of evidence referred to, such as rules, procedures, conditions, or events which are taken to provide clarification of meaning. Four types used for illustrative purposes in this catalogue include Normative, Process, Teleological, and Causal.
3. As pupil knowledge outcomes, explanations are often partial or fragmentary. This is because pupils attempt to recount explanations before full mastery of the material. Consequently they are often accompanied by considerable support from the teacher in the form of prompting.

Illustratives:

Explanations are illustrated according to the four types, Normative, Process, Teleological, and Causal, in the following sections.

a. Causal Explanation

Definition:

The recounting of reasons or evidence which indicates what brought about a particular event; the recounting of a standard explanation for a class of events in terms of common causal factors.

Indicators:

See indicators under Explanation.

Illustrations:

1. Causal explanations are often brief reiterations of standard accounts of things which pupils provide in response to direct questions. For example:
    a. An elementary school pupil states that things fall to the earth because of the force of gravity.
    b. A pupil states that day and night are caused by the turning of the earth upon its axis.

c. A high school pupil states that inflation is caused by higher wages and increased government spending.

2. Causal explanations may also consist of relatively complex accounts of things, such as the following high school pupil's recounting of the causes of World War I based upon his recollection of the text and his lecture notes.
   The causes of World War I were:
   (1) The development of German ground forces--regarded as a threat by France and Russia.
   (2) Germany's industrial development, accompanied by its increased naval strength--a threat to Great Britain.
   (3) The competitive nature of industrial imperialism, and the resulting armaments race among European countries.
   (4) Military alliances, such as the one between Germany and Austria-Hungary.
   (5) A provocative incident--the assassination of Archduke Francis Ferdinand.

Note the potential overlapping between the recounting concepts of summary and causal explanation. If the explanation constitutes a verbatim reiteration of what has been presented as a summary, then either term applies. However, if the explanation represents simply what the student recalls of an explanation, then it is an illustration of the latter concept.

b. Normative Explanation

Definition:

The recounting of an explanation based upon a rule, norm, or convention; an account of an action or procedure which refers to a rule or norm governing decisions to act or proceed in a certain way.

Indicators:

1. The pupil behavior is limited to the reiteration of an explanation initially presented in the course of instruction.
2. In this case, the statement of a rule is taken to be the explanation for a course of action.

Illustrations:

1. When asked under what conditions the comparative form of a modifier is correct, a pupil responds, "When the comparison is only between two things."
2. When asked why we no longer have prohibition, a pupil responds, It was repealed by the 21st Amendment." The rule referred to here is a formal law, or governmental regulation. Note that the pupil merely recalls and recounts an explanation without providing interpretive elaboration, the explanation is produced from memory, and it does not involve application to a particular instance. Note also that, in this case the explanation, although correct, is not comprehensive.

c. Process Explanation

Definition:

A pupil knowledge outcome at the level of cognitive memory in which the pupil states an account of a process or a procedure; the recounting of a procedural explanation.

Indicators:

1. In this kind of explanation, the explanatory evidence is presented as a step-by-step account of a process or procedure.
2. A process explanation makes clear how something works or operates. Items explained in these terms range across a wide array of types, including mechanical operations and processes, biological processes, political and legal procedures, or mathematical and orthographical processes.
3. Process or procedural explanations may be presented graphically or diagrammatically as well as verbally.

Illustrations:

1. A pupil reproduces verbally the following material as an indication of "How cases get to the U.S. Supreme Court."

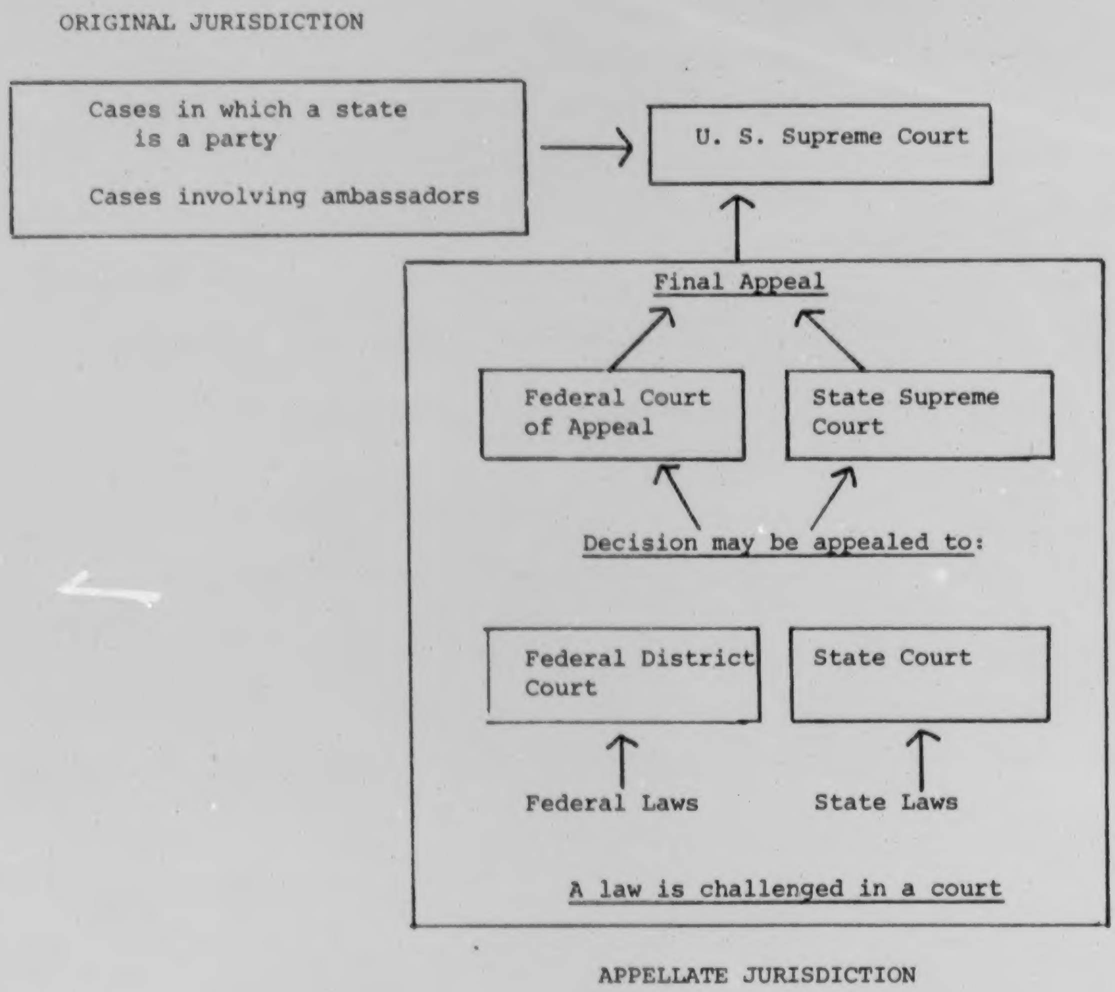
   "Appellate cases originate when a law is challenged in either a Federal District Court or a state court, depending upon whether the law involved is a federal or state law. The decision may then be appealed to either a Federal District Court or to the State Supreme Court. The final appeal may then be taken to the U.S. Supreme Court. Cases of original jurisdiction are those in which a state is a party, or in which foreign ambassadors are involved."

   The statement represents a recounting of the same procedural explanation as it was originally presented verbally in a textbook or some other source. The same procedural accounting may be recounted graphically as shown on the following page.

   A pupil response of this order constitutes a recounted process explanation inasmuch as the pupil reproduces from cognitive memory the display as presented originally in a text or other source.
2. A high school pupil attempts to recount "How animal mitosis works" as follows:

   "Mitosis is the division of the nuclear material in cells. It starts--well, it's a continuous process, but the first thing that happens that you can see is the division of the centrosome. It divides in two and the two halves start moving apart, away from each other. Then you can start to see these threads--they look like threads--and they're the chromosomes. They're really double, each chromosome is really made of two strands-- the chromatids, the strands are chromatids. When the chromatids separate, that is, each pair of them, then they're new chromosomes. Finally there are two new nuclei, and that's the end of mitosis."

How Cases Get to the Supreme Court


ORIGINAL JURISDICTION
Cases in which a state is a party
Cases involving ambassadors
U. S. Supreme Court
Final Appeal
Federal Court of Appeal
State Supreme Court
Decision may be appealed to:
Federal District Court
State Court
Federal Laws
State Laws
A law is challenged in a court
APPELLATE JURISDICTION

BEST COPY AVAILABLE

d. Teleological Explanation

Definition:
A knowledge outcome in which the pupil recounts an explanation which deals with the purposes or functions underlying an action or event.

Indicators:
1. Teleological accounts of human actions tend to be expressed in terms of motive or intent. Those dealing with physical or biological events tend to be expressed in terms of functional utility or functional-structural relationships.

2. Teleological explanations may appear similar to other kinds of explanations, particularly process or causal explanations. In the case of teleological explanations, however, the emphasis is upon why the process takes place--for what purpose rather than upon how.

Illustrations:

1. The following illustrate teleological explanations of biological events or functions:
    a. A pupil states that certain specialized behavior observed among many animals prior to copulation--butting duels, assumption of distinctive positions, exhibiting brilliant color, etc.--serves the function of attracting the opposite sex.
    b. A pupil states that the purpose of the flagellum in the euglena is to enable the organism to move.
2. An elementary pupil states that the reason Columbus undertook his first voyage was to prove that the earth is round.
3. When asked to explain the meaning of the opening lines of Hamlet's first soliloquy ("Oh, that this too too solid flesh would melt, thaw and resolve itself into a dew"), a pupil refers to his understanding of Hamlet's intention or motivation. Hamlet says this, the pupil indicates, in order to express his despair, even at the prospect of continuing to live, upon learning of the murderous connivance of his mother and uncle.

Fact-Stating

Definition:

An instance of reception learning in which the pupil identifies something by providing a brief, unelaborated factual statement.

Indicators:

1. Fact-stating is a typical, frequently-observed pupil response in which the situation calls for the recitation of items taken to be matters of fact.
2. Identification of the item referred to may take the form of a brief description or the naming of examples.
3. Fact-stating involves unrehearsed cognitive memory. Statements are not practiced as such in advance, but are produced impromptu by pupils in the course of classroom interaction. In this regard it is similar to the summary or recapitulation. However, fact-stating is more limited; it involves a single factual statement provided in response to a direct question or request.
4. Fact-stating occurs either when the discussion pertains to material previously covered or currently under development.

Illustrations:

1. In response to a question, a fifth-grade pupil states that the chief mineral products of Missouri are lead, granite, and zinc.
2. An eighth grade test item asks for the two major kinds of accidental deaths. A pupil writes: "The two major kinds of accidental deaths are those caused by motor vehicles and those caused by accidents in the home."

Sources:

Aschner and Gallagher, pp. 10-17; Bellack, 1966, p. 24; Smith and Meux, 1970, pp. 37-38, 211-218.

Note: "Fact Stating" as used here is very similar to the concept "Designating as described by Smith and Meux.

Generalization

Definition:

A statement in which a pupil recounts a general principle, rule, trend, prediction, or conclusion.

Indicators:

1. Generalizations are reproductive in that they represent what the pupil recalls of general statements presented previously in the course of instruction.
2. Generalizations are often employed in response to direct questions calling for explanations. Thus a causal explanation may be expressed in the form of a generalization.
3. A generalization is frequently the expected pupil response in situations pertaining to rules, i.e., either when a question requires the explicit statement of a specified rule or when the question requires identification of the rule that applies in a given case.

Illustrations:

1. In listing the causes of the American Revelution, a junior high school pupil writes, "One of the causes of the War was taxation without representation." The statement is appropriate enough as a generalization, and as such demonstrates a minimum level of comprehension. In itself, however, the generalization does not demonstrate comprehension of the constituent concepts, such as "taxation" and "representation."
2. A pupil rearranges the following sentence:
   "They were startled by a school of fish bailing water from the canoe."
   Thusly:
   "Bailing water from the canoe they were startled by a school of fish."

When asked to cite the rule that he has applied, the pupil responds, "You're supposed to place modifying phrases and clauses as close as possible to the words they modify."

3. In response to a request to state the rule for dividing by fractions, a pupil responds, "Invert the divisor and multiply."

Quotation

Definition:

A statement in which the pupil quotes from a specific source either directly or indirectly.

Indicators:

1. Quotations are responses to questions or requests that call for indicating what was said about something in a book or other document.
2. Quotations perform functions similar to other forms of recounting. That is, they provide a factual statement or identification, a definition, an explanation, or a summary, etc. The distinction is that the pupil explicitly reports the statements of someone else.
3. Quotations may vary considerably in length and formality. The pupil may simply cite and quote a brief statement from the text, or he may recite a lengthy memorized passage.

Illustrations:

1. Pupils in an elementary school social studies class take turns reciting Lincoln's Gettysburg Address.
2. In a high school history class a pupil is asked what the book says about Lincoln's early position on slavery in the South. The pupil recounts: "It says that he did not oppose the existence of slavery in the South, and that he admitted that he did not know what to do about it there."

Source:

Smith and Meux, 1970. The concept "Quotation" is similar to what Smith and Meux refer to as "Reporting."

Summary

Definition:

The recall of a summary or recapitulation which has been presented previously either by instructional materials, such as a textbook, or by the teacher.

Indicators:

1. In this form of reception learning, the summary is a product of someone other than the pupil recounting it. It represents what he recalls of a summary formulated previously by someone else.

2. The summary is recounted verbatim, or nearly so, after the original source. The pupil provides no elaboration, analysis, or evaluation of his own.
3. The pupil presents the summary as a brief statement or as a list of points.

Illustrations:

1. A summary may take the form of a list of the characteristics of something, as of an historical period. Thus in referring to the Jacksonian Era, a pupil may recount its characteristics as he recalls them from a summary paragrpah in a history textbook: "(1) The era was marked by industrial expansion based upon new machines and sources of power. (2) The expanding labor force began to exert some political influence. (3) The period saw important social reforms, such as free, tax-supported schools and the beginning of the abolition movement."
2. An eighth grade science class is reviewing a unit on soil and water. One of the topics has to do with the involvement of living things in soil formation. A pupil, recalling a summary presented by the teacher at the end of a lecture, recounts: "Decaying plants and animals provide humus; burrowing animals loosen and aerate the soil; bacteria and algae break up organic matter into mineral elements."

Productive Thinking

Categorizing

Definition:

The cognitive process in which pupils group items into classes or categories on the basis of similarities and distinctions among the items as discerned by the pupils.

Indicators:

1. Categorizing ordinarily takes place as a component of concept development. That is, by grouping certain items into a category, and leaving others out, the pupil demonstrates (1) some understanding of the category as a general concept, and (2) his recognition of the items under consideration as either positive or negative instances. When categorizing items into multiple categories, the pupil also demonstrates his ability to discriminate among the categories (as general concepts) as well as among the individual items being categorized.
2. The warrant for inclusion of an item in a particular group must be primarily an outcome of the pupil's own examination and analysis of the material rather than memorized taxonomic designations.

Illustrations:

1. A group of primary children have listed a number of things that people buy in stores. From this list they form groups of items according to the kind of store in which they would be sold--food store, clothing store, pet shop, hardware store, etc. In this instance, categorizing involves discriminating among sub-categories (pet shop, etc.) of a general category (store).
2. A group of biology pupils are provided with visual and verbal descriptions of several unfamiliar organisms belonging to two different classes. Without reference to established taxonomic designations, the pupils group the examples into classes of their own designation.
3. A biology student is presented with an unfamiliar specimen. On the basis of his examination of the specimen, he indicates the name of the genus to which the specimen belongs, even though he does not know the species name.

Comparing

Definition:

A cognitive process in which pupils note and indicate similarities and/or differences between two or more items on the basis of the pupil's original analysis of the items.

Indicators:

1. Comparing often involves a twofold process, and therefore results in two kinds of products, comparisons and contrasts.

2. The verbal outcomes of comparing--comparisons and contrasts--are the same as those of recounted comparisons. The distinction is that in this case the comparison is the result of the pupils' comparing, whereas the recounted comparison is the result of what the student recalls of a comparison someone else has made.
3. The character and complexity of the comparison that results from comparing may vary in several ways, depending upon the structure of the pedagogical control which brought about the comparing behavior. For example, such controls, whether those of the teacher or the textbook, may:
    a. provide one or more bases of comparison
    b. provide no basis of comparison
    c. provide one item and a basis for comparison, and request that the pupil provide a comparable or contrasting item.

Illustrations:

1. Sixth graders have constructed a table on newsprint in the front of the room for the purpose of making comparisons between two explorations. Columns are headed "Columbus," and "Apollo 11" respectively. The rows across are labeled "size of crew," "type of vehicle," "size of vehicle," "source of propulsion energy," "average speed," "distance traveled," "cost of voyage," "significant discoveries." The pupils are formulating comparisons and contrasts pertaining to the two explorations, using the data in the table.
2. The following illustrate the variations pointed out in indicator 3 above:
    a. When asked which is the larger city, Chicago or Detroit, a pupil refers to a population table in the text, and responds, "Chicago." The control in this case provides a basis of comparison, size. Note that the verbal outcome is fragmentary even though the cognitive operation of comparing has occurred.
    b. When asked to compare Hamlet and Macbeth, a student responds: "Well, they were both members of royalty, but in different countries. Hamlet was a prince and Macbeth was a king. One was motivated by ambition and the other by revenge. They both had problems with their conscience. They both were killed, but in different ways. . ." In this case no basis of comparison is provided.

Sources:

The major source is Smith and Meux, 1970, pp. 116-121, who use the hyphenated label Comparing-Contrasting. The same concept appears in Aschner and Gallagher as a form of Association. It is also similar to what Taba calls Grouping, which involves "Identifying Common Properties," in response to such questions as "What belongs together? On what criteria?" (Taba, 1966, p. 36.)

Evaluating

Definition:

The cognitive operation in which pupils formulate a value judgment about something; the process of deciding the value of a product or an action; the process of selecting a course of action from among alternatives on the basis of value judgments.

Indicators:

1. In this instance of productive thinking, the pupil-knowledge outcome, together with the deliberations leading to it, clearly reflects a grasp of relevant factual evidence and appropriate criteria which are applicable to the judgmental task.
2. The criteria applied in evaluating are public rather than personal or ideosyncratic. That is, pupils bring to bear generally accepted conventions, norms, or standards in formulating evaluations.
3. Evaluating culminates in evaluative judgments expressed about a wide range of things, including actions, products, decisions, states of affairs, institutions, or persons.
4. The value placed upon an item is typically expressed in terms of its perceived goodness, fairness, desirability, correctness, or esthetic properties.

Illustrations:

1. In a social studies examination, a high school pupil is required to take and justify a position on President Truman's use of the atomic bomb. The pupil writes a paragraph in which he asserts that although he is personally opposed to war, he believes that Truman's decision was a good one. He supports this evaluative judgment by reference to such factual evidence as: (a) The circumstances required Truman to deal with the war in some way. (He did not have the option of ignoring it or capitulating); (b) The essential task was to end the war as quickly as possible; (c) The Japanese would probably have fought tenaciously on their home islands for an indefinite period of time; (d) Both sides had already suffered huge losses in human resources. The pupil concludes that Truman's actions were justified on the grounds that continued fighting with conventional weapons would have produced more detrimental long-term effects for both sides, particularly for the U. S., than the immediate effects of the bomb.
2. A pupil is asked if he believes that Monet's Impression, Sunrise is aptly named. He responds by saying that indeed the picture is an excellent example of impressionism. He offers as evidence that although the elements of Le Havre are essentially apparent, the painting is not photographically representational. Yet it succeeds in conveying very effectively a feeling, an impression, of the harbor at sunrise.

Explaining

Definition:

The set of cognitive operations and outcomes by which the pupil formulates his own account of something or applies his knowledge of an explanation to a particular instance in which that explanation applies.

Indicators:

1. Explaining engages the student in clarifying something which he has not explained before. The situation may be altogether novel to him, in which case he must formulate his own explanation. Or the situation may represent an instance of a class of events about which he has some general explanatory knowledge. To clarify that instance, he must be able to apply the standard or general explanation in accounting for it.
2. When the pupil formulates his own explanation, it is novel to him, even though it may correspond to a standard explanation. Only very rarely, in fact, do pupils in classrooms arrive at explanations for which no previous explanation had existed.
3. Explaining may be referred to as an example of productive thinking because it engages the pupil in higher order thinking than merely recounting. Although explaining as a cognitive process may result in an explanation, which can be recounted, the pupil must engage in more productive forms of thinking than remembering an explanation that he has previously seen or heard. He must produce, rather than recount, the explanation. Similarly, when pupils apply the knowledge of an explanation in order to account for something new, the cognitive process required is more complex than recounting.

a. Causal Explaining

Definition:

The cognitive process whereby the pupil either formulates an account of something in terms of cause and effect relationships or applies an established causal explanation in accounting for an event which he has not previously explained.

Illustrations:

1. Sixth grade pupils have just observed a short film presentation in which a metal strip, originally straight, is shown bending when held over a flame. Following the presentation, the pupils begin asking questions of the teacher, most of which tend to be of the categorizing or analytical variety, and virtually all of which must be answered by either "Yes" or "No." For example: Is the metal thing a knife blade? Is it made of one kind of metal? Does the heat make it bend? etc. etc. By keeping track of the data obtained from their questions, the pupils gradually induce an explanation:

"The metal strip is composed of two strips, each a different metal, bonded together. Because the two metals expand in the presence of heat at different rates, the strip bends toward the side with the slower rate."

The above illustration, of course, is based upon Suchman's Inquiry Training approach, in which the pupil knowledge outcome takes shape in relation to highly structured pedagogical controls. (Only "yes-no" questions are permitted.)

Causal explaining of the same phenomena can be illustrated by referring to more typical approaches. For example, pupils could arrive at the explanation by asking questions requiring more substantive answers. Or they could directly demonstrate with the same apparatus as shown in the film, and subsequently apply their knowledge of the general causal explanation concerning the effect of heat upon metals in explaining this particular instance. In none of the above cases are pupils merely recounting a memorized explanation.

2. A group of primary pupils have constructed paper pin-wheels which they have taken with them into the school yard. After they have enjoyed watching the pin-wheels whirl in the brisk wind, they are asked if they can tell what makes the wheels turn. One pupil responds, "It is the wind blowing." Another adds, "The wind blows the air, and so the air moves, and so it makes the wheel go around." Others contribute, "The air moves and pushes the wheel around." "The air makes the wheel go around because it's moving." The wind is full of energy." "You have to have energy to make things go. The wind's got energy."

These statements closely paraphrase those of an actual group of first graders. Collectively they approximate a causal explanation, although it is not complete, and it is probably true that the children could not "explain" at least one key term in their explanation, and that is the concept of energy. It is also the case, however, that such remarks, even given their limitations, would be unlikely to occur if the pupils had no comprehension of an account of the particular phenomena. The episode is therefore offered as an illustration of causal explaining, that is, as a cognitive outcome under the general category of comprehending, rather than under recounting.

This classification is warranted on the grounds that (1) the pupils are clarifying in causal terms an event which they had not previously explained, and (2) they are applying, rather than only reiterating, what they already know of a causal explanation. In this case the pupils had previously encountered other things that move--wind-up toys, boys and girls, pets, the hands of a clock, bicycles--and what causes them to move. So far the pupils had begun the understanding of two notions about motion. The first is that something moves because a force is exerted upon it--"something pushes it." The second is that the necessary source of force is energy. To be sure, the explanation is not fully articulated. For most of the pupils the concept "energy" itself is rudimentary, so that the use of the term is primarily a matter of cognitive memory or recounting. Nevertheless, the illustration demonstrates the process of explaining at an early developmental stage. There is evidence that some degree of comprehending, something beyond mere recounting, is involved.

b. Normative Explaining

Definition:

The cognitive process whereby pupils either formulate an account of something in terms of rules or norms, or apply a normative explanation in accounting for a particular event or action.

Illustrations:

1. A pupil completes an exercise consisting of sentences which must be completed by selecting the proper form of a modifier (positive, comparative, or superlative degree). For each example, the pupil also indicates the reason for his selection. Thus, when he has selected the comparative degree, he notes on his paper, "comparison between only two things." When he has selected the superlative he notes, "comparison of more than two things." In this instance, the pupil applies a rule in the form of a grammatical convention in making each selection. His subsequent citing of the rule clarifies or explains his action, each action being an event which the pupil has not previously explained.
2. In a social studies class, a brief to the TVA has been presented, including the statement that the government produced and supplied cheap electrical power directly to consumers. When asked why the TVA might have been controversial, a pupil responds:

   "Well, I can see why some people would object to that because the government would be doing things that private business should do. That would be socialistic to a lot of people--they would say it's socialistic. And we don't believe in socialism. At least I would say the private power companies would oppose that, because they would not be able to compete. They would say that it's unfair competition."

   In this illustration, the designation of TVA as controversial is explained by reference to norms associated with a private enterprise system. The pupil clarifies or explains the designation in terms of norms which place a positive value upon free competition and a negative value upon the socialization of service enterprises.

c. Process Explaining

Definition:

The cognitive process whereby pupils formulate an account of a process or procedure, or apply such an explanation in accounting for an event or phenomenon.

Illustrations:

1. A group of pupils prepare a paper on "How a Law is Written." Their account of this procedure is based upon materials drawn from a variety of sources and activities, including interviews with city councilmen, observations made at council meetings and committee hearings, correspondence with committee chairmen and the mayor, newspaper accounts of the progress of specific legislation as it is acted upon by the council, etc.
2. A group of pupils observe a film that presents a highly magnified view of the behavior of amoeba in the presence of food particles. The pupils then write their own accounts of how the amoeba gets its food.

Generalizing

Definition:

The process by which pupils produce a general statement or proposition about something on the basis of inferences drawn from specific facts.

Indicators:

1. Inferring is the essential cognitive component of generalizing. To generalize pupils must be able to draw conclusions from an array of data; they must discern among the data, or assign to them, a relational structure which signifies a general principle or trend.
2. The essential cognitive outcome or product of generalizing is a generalization, a statement that expresses the principle or trend inferred from the data. The generalization may be expressed in the form of a prediction or conclusion, as well as a principle or trend.

Illustrations:

1. Pupils in an elementary social studies class have assembled an array of facts about their home state, which they have displayed on maps, tables, and charts around the room. Accumulated over a period of several weeks, the information pertains to geographical features such as topography, climate, and mineral resources, economic characteristics in the form of agricultural and manufacturing statistics, and demographic features in the form of rural-urban population shifts over a ten year period. Using this array of specific information, the pupils engage in a series of discussions which result in the production of several statements about the general nature of their state's agriculture, its industry, its urbanization, etc., at the present time. The pupils then produce a second set of statements, again based upon the specific factual material, in which they attempt to predict the characteristics of their state at some future time. Finally, the pupils generate a third set of statements, in which they attempt to predict the consequences upon these characteristics of some assumed massive intervening variable, such as several years of

unprecedented drouth, or a revolutionary technological intervention such as the development of solar energy usage.

2. In a junior high school history class, the pupils have listed a number of events which followed from the Embargo Act of 1807. Their list includes:
    a. England had an unusually good crop, and therefore did not need U. S. exports.
    b. The British blockade prevented much trade with France.
    c. With the loss of important markets, many U. S. farmers went bankrupt.
    d. U. S. shipbuilders were also hurt.
    e. The government lost income from import duties.

    The pupils are then challenged to draw from this historical instance a general conclusion about what the conditions are that would have to prevail if any trade embargo were to succeed. One pupil product: "If it's going to work, the countries you're cutting off have to depend completely on you for what they need."

Opining

Definition:

The cognitive process in which the pupil offers judgments, appraisals, interpretations, or predictions which are essentially speculative in nature. Such judgments are offered in situations in which the relevant evidential criteria are not accessible to the pupil, or when the pupil bases a judgment upon criteria that are ideosyncratic to his own scale of values.

Indicators:

1. Opining is similar to the process of generalizing except that in this case few, if any, explicit conditions are available from which to draw inferences. Thus while generalizing may lead to or be expressed as a rather definite prediction, opining tends to be expressed more tentatively, as simply a matter of belief, hunch, or supposition.
2. Opining tends to be freer of the elements of logic than are other cognitive operations. It therefore encompasses pupil outcomes which, while cognitive, may be characterized as imaginative.
3. Opining tends to reflect the personal viewpoint of the pupil more so than do other cognitive processes.

Illustrations:

1. A pupil states that he believes that there is life on Mars. He may even speculate as to the nature of such life. He does so, however, in the absence of any very specific evidential criteria.
2. A pupil indicates that he believes that Lincoln would handle current civil rights problems more effectively than they are being handled. When asked to provide a basis for that judgment he offers the assumption that Lincoln was fairer and more honest than present day politicians.

IV.

Control of Content

CONTROL OF CONTENT

The "control of content" rubric subsumes those pedagogical activities by which the content of teaching is organized and regulated. It includes the procedures by which the teacher determines what aspects of content will be considered, at what times, and in what order. It also includes those procedures by which the teacher controls the participation of pupils and by which their participation is monitored and evaluated during the course of interactive teaching. In this catalog, the concepts associated with these activities are organized under the following subheadings: content organizing, process regulating, and evaluating. These three general conceptual groupings are defined as follows:

1. Content Organizing: Teaching activities which determine the mode in which content is delivered to students and the ordering or sequencing of content presentation.
2. Process Regulating: Pedagogical activities which structure the task to be undertaken by specifying its thematic or procedural dimensions; activities by which classroom discourse is focused upon a given cognitive level or shifted from one level to another; in general, activities which control the participation of students in classroom discourse.
3. Performance Rating: Communications which convey praise or criticism, and thereby acceptance or rejection, of someone's performance in relation to the learning task.

V.

Concepts Defined in Control of Content

Content Organizing

Discussion Teaching

Definition:

A mode of content delivery in which content is communicated by way of verbal interchanges among students and between students and the teacher.

Indicators:

1. In this mode both students and teacher are active participants.
2. In discussion teaching, the organization of content is given direction by the structuring and focusing activities of the teacher. However, the organization is more dynamic than in other modes as it takes shape from moment to moment as a function of student contributions.
3. When discussion teaching is employed, the delivery of content is accompanied by other teaching objectives, such as engaging students actively in the critical examination of ideas, providing practice in oral skills, or simply raising the level of student response.

Illustration:

Discussion teaching is observed in a variety of settings, especially in areas where issues are problematic or subject to alternative interpretations. Discussions are therefore often employed in the social studies and in English at both elementary and secondary levels. Their use in other areas is not precluded, however. A science teacher may wish to have his students bring their knowledge of the factual content of science to bear upon the examination of social issues, such as birth control, nuclear contamination, or some other pollution problem. Discussions are often components of prescriptive strategies, as for example, the "Jurisprudential Model" of Oliver and Shaver.[1] In that instance, students are engaged in highly structured and teacher controlled discussions (dialogue), which are centered around issues of public policy the legitimacy of which may be contested on the basis of alternative value orientations. The purpose of the discussion in this case is to require the student to take a position and support it with intellectual justification.

Lecturing

Definition:

A mode of content delivery in which the teacher communicates the content of instruction orally to students.

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[1] Oliver and Shaver, Teaching Public Issues in the High School (Boston: HMC, 1966)

Indicators:

1. The content is organized by the teacher and presented in the form of continuous discourse.
2. In this mode, the content tends to be relatively coherent, logically sequenced, and uniform in point of view.
3. In lecturing the teacher is the overtly active agent. Student participation involves listening and/or note-taking.

Illustrations:

Lecturing is virtually universal and self-evident in teaching. However, it does appear in a variety of forms. It may occur as a formally organized presentation, in which the teacher reads a prepared text, speaks from notes, or recites memorized material. It may be employed occasionally, or it may comprise the exclusive modality for delivering content. In some cases the lecture is used informally for the purpose of delivering relatively small units of discourse, and therefore is interspersed with other delivery modes. For example, in the course of a discussion it may become apparent that the students do not understand a concept, a procedure, or a set of facts. The teacher may thereupon deliver a brief discourse on the troublesome matter. Although the content in such a case is organized rather spontaneously, it is nevertheless organized and delivered by the teacher and thereby meets the criteria for lecturing.

(In a narrowly technical sense, lecturing may be said to occur anytime the teacher communicates content, even including very short "fact-stating" responses to student questions. Although in such instances the teacher communicates content directly to the students, such a construction of lecturing requires an elastic interpretation of continuous discourse.)

Routine

Definition:

Procedures whereby units of content are so organized and the conditions under which students interact with them are so regularized that their recurrence is standardized and virtually automatic.

Indicators:

1. The initial establishment of routines may require considerable instruction and explanation on the part of the teacher and practice on the part of the pupils.
2. After the routine is established, the associated behavior is engaged in by pupils with minimal direction from the teacher.
3. Control of content through routine is employed in areas which lend themselves to division into similar units, and/or which call for repeated practice of similar skills or repeated performance of similar procedures.

Illustrations:

1. In an elementary classroom the reading program may be so organized that the children in each reading group follow their own schedule for each day of the week. Each child knows on which days he works in the basal text, which day with the reading pacer machine, which day with the individualized skill development material, and so on. Much of the activities associated with the reading program have been so regularized that the teacher needs only to signal that it is time for reading, and each child proceeds to transport himself to the proper place and/or procure the proper materials and begin the work for that day. If it is his day for working with the skill development material, the child will already know how the material is organized according to particular kinds of skills, and how to proceed with each corresponding set of exercises. He will know how to check his progress, and probably also when and under what circumstances to "promote" himself to the next higher level.
2. A high school biology teacher may prescribe a particular format for laboratory reports. That is, he may specify criteria to be followed for the identification and description of specimens, for describing the dissecting or other procedures followed, for recording observations, and for summarizing findings. Once these activities have been established as routines, the students perform them with little or no direction from the teacher. A significant portion of the content may thus come to be organized through such routines.
3. An elementary teacher may write several arithmetic problems on the board each day before school starts. As the children take their seats, they automatically work the problems, including checks.

Sequencing

Definition:

A form of temporal control of content which involves scheduling and presentation of units of content together with associated classroom activities in a particular order.

Indicators:

1. Sequencing ordinarily presupposes that a relatively large body of content has been examined by the teacher to determine the feasibility of its division into smaller units. It thus depends upon the potentiality of the larger body of content to be viewed as a comprehensive set of learning tasks comprised of a series of subsets of tasks.
2. The particular character of the content units in a sequence, as well as their sequential order, depends upon the substantive-logical characteristics of the content area and the logical relationship among the content units comprising it.

3. Sequencing may occur at several time levels. The content for a year's work may be blocked out in a particular order as a sequence of large, general topics. Content may be sequenced around a specific theme or topic over a period of several days or several weeks.

Illustrations:

1. History is concerned with the explanation of significant events in terms of the evolution of the compelling influences underlying them. Thus it encompasses both the consideration of the conflicting social forces at work and the chronology of specific episodes in their resolution which culminated in the specific event under consideration. The sequencing of content in history therefore typically follows the familiar format which might be called chronographic.

   To illustrate briefly, a history teacher might sequence the content for an introduction to the study of World War I by organizing it into a two-part sequence of major content units: the World Context, and U. S. Involvement. Each of these centers around a set of conflicting forces culminating in a particular resolution, which in this instance is war in each case. Within each major content unit, a sequence of specific activities is organized, thus providing a schedule for the presentation and treatment of subject matter, as shown below:

Content Unit Sequence	Conflicting Forces	Resolution	Activities Sequence
I. World Context	World Peace Movement vs. Political-Military-Industrial Competition among European powers	Sarajevo and War (1914)	Day 1: Teacher presentation on development of European militarism, nationalism, and international alliances. Make reading assignments.
II. U. S. Involvement	Efforts at neutrality vs. Forces toward involvement	Zimmerman Note and War (1917)	Day 2: Pupils study map of 1914 political boundaries, discuss in relation to first day presentation. Day 3: Pupils read and discuss excerpts from proceedings and reports of the Hague Court of Arbitration. Discuss in relation to developing nationalism. Day 4: Pupils examine news accounts of Sarajevo as presented in different countries. Relate differing accounts to international alliances.

Day 5: Teacher presentation on Wilson's role in behalf of neutrality. Pupils examine excerpts on instructions to U. S. delegates to Hague Court.

Day 6: Discussion of reading assignments on English interference with international trade; German submarine warfare.

Day 7: Examine content of Zimmerman note. Discuss why it was the turning point in U. S. involvement.

2. In some subjects, such as mathematics, the sequencing content is largely dictated by the logic of the subject itself. It is assumed in mathematics that certain concepts must be built upon others, and that it is therefore essential to understand what builds upon what and to order the presentation of content accordingly. In the study of sets, for example, it would be exceedingly difficult to present a very meaningful discussion of disjoint sets without first having developed the concepts of set intersection and empty sets. Neither of the latter, in turn, could be understood very well without an understanding of the general concept of set. Thus the content sequence for the study of sets must follow a definite logical order, proceeding roughly as follows:
    a. General definition of set
    b. Empty set
    c. Equal vs. equivalent sets
    d. Subsets
    e. Set operations (set intersection, disjoint set, union)

   The teacher's role in such cases is to provide clarification of the concepts in the sequences through explanation, illustration, and by providing students with relevant practice.

Textbook Teaching

Definition:

The mode of content delivery in which the control, organization, and sequencing of content is governed exclusively or almost exclusively by the manner in which it is organized and presented in a textbook.

Indicators:

1. In this mode the roles of both teacher and students are limited with regard to the organization of content. The content is delivered as it is organized in the text, with no or very little intervening organizational function being performed by the teacher.

2. The teacher's role is limited primarily to that of indicating to the students the conditions under which they are to interact with the content presented in the text.
3. The student's role is similar to his role in lecturing: he is either reading or listening to someone else read and perhaps taking notes. The student may also write answers to questions or perform other written exercises as prescribed by the text.

Illustrations:

The textbook is very much in evidence in most of the school subject areas for both elementary and secondary classrooms. Some subjects lend themselves more heavily to textbook teaching than others, however. Traditional elementary reading programs center around the use of a "basal" text. The presumed advantage of such texts is that they engage the child with reading material systematically designed with regard to reading vocabulary and syntactical complexity. Accompanying exercises, often in separate workbooks, are keyed to the reading selections in the text, and provide practice in specific skill development. Because such materials are designed to be as programmatically complete as possible, the teacher's role may be limited to engaging the children in interaction with the materials and monitoring their performance. The teacher may do little or nothing in the way of content organization.

Textbook teaching may also be observed in situations where there might be more suitable alternatives. For example, a social studies teacher may teach directly from the text by having pupils take turns reading aloud paragraph by paragraph. At the end of each section or chapter the teacher may then call upon individual children to read aloud and answer the questions provided in the text. A variation of this approach would be the case in which the teacher indicates to the pupils that they are to read individually, either in or out of class, a specified number of pages in the text, and to write the answers to a specified number of questions provided in the text.

Process Regulating

Cognitive Level Focusing

Definition:

The use of teacher questions and directives in such a way as to indicate or require a response at a particular level of thought.

Indicators:

1. In this dimension of focusing, the critical element is the thought level rather than number and variety of responses elicited.
2. All teacher questions and directives pertaining to content require responses at some level of thought. The concept of cognitive level focusing refers to the possible variations in thought level that may be stimulated through teacher questions. Since teachers presumably have a particular cognitive level in mind when presenting content, the concept of level focusing is regarded as a useful means of either predetermining the wording of questions or assessing the effectiveness of questioning after teaching has occurred.
3. The cognitive level may or may not be made explicit to the students.
4. Cognitive levels are identified by conventions of logic and psychology, the most familiar being the taxonomic categories of Bloom: knowledge (factual recall); comprehension (translation, interpretation); application; analysis; synthesis; and evaluation.

Illustrations:

1. The following questions focus at the level of memory or factual recall:
   Teacher: Who was Hamlet's unintended victim?
   Teacher: What is the definition of socialism?
   Teacher: What is the population of Tokyo?
2. The following focusing activities are at the level of analysis:
   Teacher: This paragraph that I've just distributed to you is an excerpt from some political literature that speaks against one of the candidates in the last election. Can you tell me why the reasoning in this material is unsound, that is, illogical?
   Teacher: After you've seen this film loop (which shows a metal strip bending in heat) I want you to write down the reasons that you think might explain what happened.

Cognitive Shifting

Definition:

The use of questions and directives which signify a shift in the cognitive level of the expected responses.

Indicators:

1. Cognitive shifting occurs at a point of transition following subsequent discourse that transpire at a different level from that of the preceding discourse.

2. In the case of cognitive shifting the teacher is more apt to announce explicitly that such a transition is to take place, and therefore pupils are more apt to be aware of it than they are of cognitive level focusing.

Illustrations:

1. In an English class, the students are discussing the short story "Youth" by Joseph Conrad. The teacher begins by asking for description of two characters, the captain and the mate.

Recall	Teacher:	What did the captain look like?
	Student:	He was old, about sixty, but his back was straight.
	Student:	He had blue eyes, and a short beard.
	Teacher:	Yes, what about his hair and beard, how does Conrad describe them?
	Student:	Conrad says his face was framed in iron-gray fluffy hair that looked like a chin-strap of cotton-wool sprinkled with coal-dust.
Cognitive Shift	Teacher:	Why did Conrad use those particular words? Why didn't he just say the captain had short gray hair all around his face? Or something like that?
Analysis	Student:	He wanted the description to be more vivid, to be more interesting.
	Teacher:	How does he make it more vivid?
	Student:	He uses figures of speech.
	Teacher:	Such as?
	Student:	"Like a chin-strap of cotton-wool." That's a simile.
Cognitive Shift	Teacher:	What does that mean?
Translation	Student:	It's a direct comparison, a figure of speech that makes a direct comparison between one thing and something else.

2. In a science class, the teacher has engaged a pupil in rehearsing the process of photosynthesis. The cognitive operation which the teacher has required has thus been at the level of factual recall. As the pupil completes recounting the facts, the teacher directs his attention to the word "photosynthesis:" "What about the term photosynthesis itself? What does it mean--can you break it down?" This represents a cognitive shift, from factual recall to analysis, which may involve elements of defining or inferring.

Contingency Management

Definition:

The control of content in the presence of unexpected and unplanned for events, whether they be pupil responses or intrusions of external stimuli into the classroom situation.

Indicators:

1. Unexpected pupil responses usually take the form of immediately irrelevant but potentially relevant comments, requests, or inquiries.
2. Intrusion of external stimuli includes items brought into the classroom by pupils, items that enter the classroom independently (butterflies, birds, etc.), the sight of a sudden happening outside (snowfall, accident, etc.).
3. Because of the extreme variability of contingencies, the manner in which teachers deal with them varies enormously also. The general categories of contingency management include:
   a. Passive acknowledgement or acceptance, but no action taken
   b. Acknowledgement and deferment of action
   c. Acknowledgement and immediate action to incorporate into classroom discourse as content
   d. Non-acceptance by ignoring
   e. Non-acceptance by definite rejection

Illustrations:

1. A fourth grade teacher is reviewing a story with her pupils. Having asked a question pertaining to some point in the story, the teacher calls on a pupil whose hand is raised. Instead of responding to the question, however, the pupil comes forward to her desk, rummaging through his pockets on the way. Locating his treasure, he deposits three brown objects on her desk. "I'm glad that you brought us some buckeyes, Robert. I was hoping someone would. Why don't you put them over on the science table for now. Will you tell us about them as soon as we're finished?" The teacher then returns to complete the lesson in progress.
2. An unexpected snowfall has begun, distracting the pupils in an elementary classroom from their morning arithmetic lesson. The teacher stops the lesson, and suggests that the pupils move to the windows to watch. While the pupils are watching, the teacher leads a discussion about snow, encouraging the children to see if they can tell how soon the snowflakes melt on the sill where the snow seems to be "sticking." She asks them if they think this will be a good snow for sledding and snowmen and why. Then she tells the children about the crystalline structure of snowflakes and then suggests that they place some magnifying glasses and the microscope in the refrigerator in preparation for getting a close-up view of snowflakes. after lunch.

Extending

Definition:

The use of teacher questions and responses in order to elicit continued responses pertaining to the same topic at essentially the same cognitive level.

Indicators:

1. Extending occurs after a focusing or shifting behavior has launched the particular discourse segment.
2. The purpose of extending is to get pupils to elaborate, usually by adding more information to what has already been said about the same topic.

Illustrations:

1. Teacher: What is an adverb?
   Student: A word that modifies a verb.
   Teacher: What else?
   Student: Adjective and adverb--it modifies them, too.
   Teacher: How do adverbs modify?
   Student: They tell how, when, to what extent.

2. Teacher: What does Wells ("The Man of the Year Million") say that man will be like physically in the future?
   Student: He'll have a large, cylindrical head, and be bald.
   Teacher: What else?
   Student: No ears, no nose, no eyebrows.
   Student: His mouth will be very small, and he'll not have any teeth, or even salivary glands.
   Teacher: Anything else?
   Student: Very large brain and hands.
   Student: Almost no legs or stomach.

3. Other illustrations would be situations in which the teacher employs a series of questions or directives which require pupils to rehearse the consecutive events in a story, to list the causes of an historical event, or the steps in a process or procedure.

Feedback Monitoring

Definition:

That aspect of process regulating whereby the teacher obtains information regarding the status of knowledge, understanding, agreement, or performance in relation to a learning activity.

Indicators:

1. Feedback monitoring may take the form of a canvass or tally among group members.

2. If the information obtained pertains to agreement with or approval of a point or issue, then some degree of evaluating is at least implied. The concept feedback monitoring, however, applies only to canvassing, of the counting of votes as it were, and not to evaluating statements and their elaboration which might ensue.

Illustrations:

1. In an English class, the teacher has requested that a pupil provide his judgment about the motivation behind the action of a character in a novel. Following the pupil's presentation, the teacher turns to the class and asks, "How many agree that that's the reason Sidney lied?"
2. In mathematics class, after checking an assignment with the pupils, the teacher asks: "How many got the third one right?" or: "How many had trouble with the last equation?"
3. In a science class, the teacher asks, "How many found that you had about 2.4 cc's of the liquid after condensation?

Justifying Authority

Definition:

An aspect of control whereby the teacher proposes or justifies the consideration of something on the basis of the teacher's role as authority.

Indicators:

1. This form of control is characterized by self-reference, such as the teacher's reference to his own experience, knowledge, and/or authority. It represents an appeal to consider content based upon personal factors rather than upon the intrinsic merits of the content itself.
2. In some instances, the teacher may refer to an external authority, in which case the implication is that the teacher acts as an agent of the cited authority in proposing the particular content.

Illustrations:

1. In a junior high school English class, the teacher attempts to persuade her pupils to study grammar primarily by referring to her own experience. Her appeal runs something like this: "Now class, I know that you--some of you, not all--I know that you may not like to do these sentence diagrams. But I can tell you--and I know from my own experience--how important--that this kind of knowledge, this skill is tremendously important. I've been around quite a while, certainly longer than you, and I've seen many many times how these skills--understanding parts of sentences and how they're related to each other--how they can help you. They've helped me, I know, every day. And I've studied English for many years, even graduate work, and well, you can believe me when I say we just can't understand our language without knowing such things."

2. In a social studies class, the teacher cites an external authority: "Now class, the basic reason we're going to be studying the state constitution is that it's required by law. The law says--and this is the law written by our general assembly in Springfield--the law says that everyone must pass a test on the state constitution--and the federal, too--in order to graduate. The school has to certify you've passed the test. So that's why we have to study this--so you can graduate. It's the law."

Source:

Flanders.

Justifying Utility

Definition:

An aspect of control whereby the teacher proposes or justifies the consideration of something on the basis of its assumed utility.

Indicator:

In this aspect of control, the utility is typically to be realized at some future time. Thus the teacher's appeal requests, in effect, forbearance for the time being in exchange for promised future benefits.

Illustrations:

1. French teacher: I know this grammar may be difficult and you may think it's boring, but someday you'll be glad you studied it because it helps us understand our own language better.
2. Mathematics teacher: So here are two very good reasons for studying math--first, you will need it in many everyday situations. In a lot of jobs, like engineering or accounting. Or just everyday business like your family budget or checking account, or even figuring costs of projects like house painting. And the second reason is that it helps you think; it develops logical thinking.

Over Cueing

Definition:

A form of content control whereby the teacher performs cognitive tasks rather than permitting pupils to do so.

Indicators:

1. The teacher may answer his own questions.
2. Questions may permit only a narrow response range.
3. Following a pupil response, teacher supplies needed elaboration as clarification.

Illustrations:

1. The teacher may begin with a relatively broad question, but then follow it immediately with another which substantially narrows the response range.

   Teacher: Bill, how does Lawrence describe Elizabeth Bates?
   Student: (Begins to respond) Well, he says she was tall...
   Teacher: Why is her mouth closed with disillusionment?

   Teacher: Why do the guardsmen "laugh with boisterous scorn" when Belzann announces that Caesar will make himself master of Europe?
   Student: They don't think he can do it...
   Teacher: The idea of Roman peasants and farmers defeating noble Egyptian warriors seems ridiculous. Right.

2. The teacher asks a question in such a way that only single, oversimplified answers are possible.

   Teacher: Who was the greater president, David: Lincoln or Jefferson?
   Student: I think Lincoln.
   Teacher: Because he freed the slaves?
   Student: Yes.

Sources:

Flanders, Taba, Hughes.

Pacing

Definition:

An essentially temporal dimension of content control whereby the relationship between the quantity of content dealt with and time is varied by the teacher according to his estimate of certain variables in the learning situation.

Indicators:

1. Although essentially a temporal dimension, pacing appears to comprise a complex combination of teacher behaviors. It includes understanding of the inherent difficulty of the subject matter, assessing the abilities of a particular group of students in relation to that subject matter difficulty, and making priority decisions about those aspects of the material in which it is essential to invest more time than others.
2. Pacing refers to the rate at which pupils are engaged in interaction with content or to fluctuations in the rapidity of content presentation.
3. Among the issues that must be interrelated in making decisions for pacing are:

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a. How difficult is this unit of content?
b. How difficult is it for these children?
c. How important is it?
d. If it is, say, difficult and important, should it be given a great deal of time with many examples, or a great deal of time with few examples?

Illustrations:

1. (A biology teacher talks about plant roots.) Deciding how much to teach about anything and how much time to spend at it can be kind of arbitrary, I guess. Take plant roots. I can probably cover the facts in three days. A couple of lectures on root types and structures, relation to soil and nutrients--some visual aids, diagrams to show them what I'm talking about. Probably a movie on osmosis and plasmolysis. And after three days, I think my kids would have the words, at least. But I don't think having the words is enough. I want my kids to know "the thing itself"--not just the words. I want them really to become familiar with roots, close-up, with as much hands on and direct observation as possible. So we spend twelve to fifteen days on just plant roots. We alternate lectures and lab work during that time, so the students can work directly with different specimens under different conditions and can observe at least partially or in simulation processes like osmosis. At the end of twelve days when I ask a student what he knows about plant roots, he ought to be able to pick out some specimens and show and explain what it means when turgor has reached a state of guttation, and when plasmolysis is evident.
2. (A junior high school mathematics teacher) I find that I have to vary the rate at which we work according to the kind of materials. These eighth grade students can perform arithmetic operations quite well, and we can cover a large number of problems, say for review, in a single period. That's true for all the operations and including all types of fractions, per cents, and decimals. But with "word problems," it's a different matter. I have to schedule an entire period for just ten to fifteen examples, and often less than that. "Sets" is another topic in which we have to move very slowly. It may take two or three sessions just to deal with one operation, like intersection.
3. Other illustrations are abundant. A chemistry teacher often finds that the balancing of chemical equations, because of its parallel in mathematics is a relatively easy content area. Students can accomplish a considerable amount of work in a short period of time. The concept of electron sharing as a form of chemical bonding, however, is another matter because the student is required to keep track (cognitively) of phenomena which cannot be observed or even represented very clearly by visual means. A social studies teacher may find that his ninth grade students, who are not highly verbal generally, enjoy the discussions based upon the prepared materials dealing with economic and political issues that have been chosen as the basis of the entire curriculum. However, he has

determined that given the complexity of the materials, and the particular level of reading and verbal ability of these students, he can plan to cover only about two-thirds of the material and he therefore paces instruction in the course accordingly.

4. A special and very important form of pacing occurs as the result of timing decisions and behaviors made by teachers during the course of classroom discussions. It can be illustrated most pertinently by reference to the use of questions. In one case a teacher may ask a series of questions, each dealing with a separate item of content, and each being addressed to a different pupil. The pacing tends to be relatively rapid: one question and one answer per child. In another case, the teacher may pose a question, and then solicit responses to that question from a number of pupils. The first form would probably be limited in usefulness to those situations in which the teacher has some confidence that most or all of the pupils have attained initial mastery of the content. In that case the rapid one-shot pacing would provide a somewhat random means of confirming the assumption of mastery. Presumably it could also modestly strengthen the correct responses among pupils other than the one reciting each time. The latter form would probably be used more often in earlier stages of learning, in which the teacher wants to make sure as many pupils as possible are apprehending the material. The slower pacing would give more pupils an opportunity to practice constructing responses. It would also promote a greater variety of responses. The latter form would also provide the teacher with a broader data base about the level of understanding among the pupils before deciding to move on to other content. (See Taba: Teachers' Handbook for Elementary Social Studies, pp. 122-126)

Reiterating

Definition:

Statements either made by or requested by the teacher which restate what already has been said.

Indicators:

1. Restatement is generally a more or less verbatim repetition of an immediately preceding utterance.
2. When provided by the teacher reiterating functions as a signal of acceptance or acknowledgement of the original statement.
3. When the teacher requests reiteration, it may be for the purpose of providing emphasis to a particular response, to reinforce it through repetition.

Illustrations:

1. The teacher has asked a student a factual question, "Who was the author of that book?" to which the pupil responds, "Stanley Loomis." The teacher then reiterates, "Stanley Loomis, yes."

2. The teacher has asked a pupil to state the formula for finding the area of a circle. Following the pupil's correct response, the teacher requests another pupil to repeat the answer. The reiteration may be solicited directly ("Can you say the formula, Mark?"), or indirectly ("What did he say, Mark?").

Sources:

Aschner and Gallagher, Bellack, Taba.

Response Range Focusing

Definition:

An aspect of content control whereby the potential range of pupil responses is either expanded or restricted as a consequence of teacher questions and directives.

Indicators:

1. This concept is relatively independent of the cognitive level of responses at the same or at varying cognitive levels.

Illustrations:

1. (Narrow) Teacher: Was Adams a strong president?
   (Broad) Teacher: In what ways would you say Adams was either a strong or a weak president?
2. (Narrow) Teacher: What's the right way to solve that problem?
   (Broad) Teacher: How many ways can you get that answer?
3. (Narrow) Teacher: Do you like to watch a sunset?
   (Broad) Teacher: How does a sunset make you feel?

Soliciting

Definition:

Statements and procedures employed by the teacher which signify who may participate in classroom discourse, and under what conditions in terms of frequency and predictability.

Indicators:

1. Soliciting statements take the form of requests or invitations to speak, or of acknowledgements of requests to speak.
2. Soliciting statements may include alerting tactics, which have the effect of either supporting active attention (positive alerting), or permitting attention to wander (negative alerting).
3. Soliciting may take the form of merely acknowledging and permitting a student to speak, even though the teacher has not posed a question.

4. Soliciting statements may be open or closed with reference both to controlling participation and to the range of expected responses.
5. Solicitation occurs as a regulating function regardless of the cognitive category associated with the learning task.

Illustrations:

1. Teacher: Anyone have any questions?
2. Teacher: Anybody know who the sixteenth president was?
3. Student: Miss Jones, I have a question about that.
   Teacher: Go ahead, Billy.
4. Classroom activities often involve the children in reciting answers to questions or solutions to problems previously assigned, perhaps as homework, or in providing answers to questions listed in a textbook. In such instances the teacher may solicit responses merely by naming the child who is to respond to each item. For example, if the recitation pattern is perfectly predictable by seating arrangement, the solicitation may simply take the form of "Next?"
5. Mrs. Holly is teaching her second grade arithmetic class the multiplication tables. The classroom dialogue goes like this: "Susan, how much is 6 times 2?" Susan answers, "6 times 2 is 12." Mrs. Holly then says, "John, how much is 5 times 3?" John answers, "5 times 3 is 15." Mrs. Holly continues calling the name of the pupil before she asks the question. The assumption is made that when the reciter is identified prior to the question, other children may "tune out" without great risk of exposure. Any alerting tactic in which selection is predetermined is considered negative group alerting.
6. Mrs. Jackson is teaching her second grade class the multiplication combinations. Her classroom dialogue goes like this: "How much is 6 times 2?" She looks around the class. After a few minutes she says, "Jane?" Jane answers. Mrs. Jackson continues, "How much is 5 times 15?" She looks around the class, then calls on Mark. Mark answers. She goes on, "How much is 8 times 4?" She looks around, then says, "Everybody." The class answers. It is assumed that when selection is unpredictable, or when a directive is universal ("everybody"), all pupils are required to attend actively.

Sources:

Bellack, Aschner and Gallagher, Flanders, Hughes, Kounin.

Structuring--Initiating

Definition:

Statements in which the nature of the learning task to be engaged in are given; statements which indicate the essential character of expected classroom activities or behaviors.

Indicators:

1. These may pertain to immediate activities or future activities.
2. Initiating may emphasize the theme or topic to be discussed, either by describing its parameters or simply naming and announcing it.
3. It may emphasize procedures to be followed by giving step-by-step directions.
4. The criteria by which performance in ensuing activities will be evaluated may be emphasized.
5. A transitional function, binding that which has preceded to that which is now to be undertaken may be provided

Illustrations:

1. (Thematic) In this type of structuring, the teacher identifies topic to be discussed. The announcement may be detailed or brief, and may include reference to previous activities, by way of transition or continuity.
    a. Teacher: Yesterday we were talking about some of the skills and tools that the settlers had brought with them from England. Today we'll look at some of the things they learned from the Indians.
    b. Teacher: So far we have defined our system as a self-regulating economy. Now let's take a look at how the price system works within our economy as a communication link between consumer and producer.
2. (Procedural) Procedural structuring provides a step-by-step desoription of how to perform an activity. In some cases the verbal description may be accompanied by a demonstration of the procedure.
    a. Teacher: Listen carefully while I demonstrate how to bisect an angle. You are to perform the same procedure at your desk, using paper, straight edge, compass. Later you will need your protractor. First, draw any angle ABC. Second, with your compass draw an arc that intersects both sides of the angle. Third, label the points of intersection R and S. Fourth, open your compasses to a distance more than half the distance from R to S. Put the point of your compass at R and draw a small arc between BA and BC. Then put the compass point at S and draw a small arc that intersects the first arc. Label the point of intersection T. Draw BT. BT is the bisector of angle ABC. Now, use your protractor to measure angle ABC and then angles ABT and CBT.
    b. Teacher: You are to write a precis for the paragraph on the sheet that I have just distributed. Be sure to follow these steps: One, read the paragraph to get the general idea, but don't take notes. Two, read it again, but this time noting the important ideas and what are the details. Three, list the essential point, or points, in your own words. Four, write the first draft of the precis. Do not include any conversation, examples, or repetitions. Five, read your first draft carefully and make corrections. Six, re-write the precis. It should be no more than one-third the length of the original.

3. (Criterial) Criterial structuring often occurs in the context of procedural structuring. The emphasis, however, is upon the quality or precision of a performance. Thus a mathematics teacher may announce to students that measurements must be accurate to the nearest millimeter, milligram, or hundredth decimal place. An English teacher may stress that paragraphs must exhibit clarity, or that an essay must be free of unity errors. An elementary teacher may specify the criteria of good penmanship expected in a written assignment.

Structuring--Terminating

Definition:

Statements which announce that the current activity is to cease.

Indicators:

1. It's often accompanied by transitional statement leading to next activity.
2. Evaluative or concluding comments about the completed activity may accompany terminating structure.
3. Because of transitional character, terminating structure statements often lead directly into initiating structure.

Illustrations:

1. Teacher: OK, that's enough on decimal equivalents for the time being. Now let's look at repeating and terminating decimals.
2. Teacher: Let's just drop that for the time being and go on with our regular discussion.

Sources:

Aschner and Gallagher, Bellack, Smith and Meux, Openshaw and Cyphert, Oliver and Shaver.

Performance Rating

Equivocating

Definition:

Teacher statements which convey less than definite or explicit positive or negative judgments, or which are accompanied by qualifying statements.

Indicators:

1. Such ratings typically include mild expressions of agreement or concession, but they are accompanied by qualifying statements which convey a mildly negative tone.
2. In some instances, the qualifying component of the equivocating rating provides the correct version of the response provided by the pupil.

Illustrations:

1. After a pupil has given his definition of rationalizing, the teacher says: "Well, OK. I guess you can say that--the opposite of scientific thinking. It's really, though, the process of devising plausible but inadequate reasons for doing something."
2. A pupil has asserted that the reason for the gasoline shortage is that we have run out of oil in this country. The teacher responds: "Well, we do have some domestic oil resources."

Sources:

Aschner and Gallagher, Bellack.

Rating--Person Oriented

Definition:

Teacher statements which communicate positive or negative judgments about the performance of a pupil in personal terms.

Indicators:

1. Because the teacher's comments are person oriented, this form of rating tends to be expressed in terms of praise or blame.
2. Although the object of the rating is ostensibly the performance of a learning task, the personal references tend to focus upon the pupil instead. Such statements therefore appear to express the teacher's evaluation of the pupil as a person.
3. A special case of the person-oriented rating is that in which although the teacher's statements refer to the task, they are at once so heavily value laden and yet vague in terms of substantive critique that the effect is to communicate a personal criticism of the pupil.

Illustrations:

1. In English class, the teacher has returned a paper to a pupil with these comments: "You'll have to do this over again, Sandra. I know you've been trying hard, but you just don't seem to be getting the idea. After all the times we've gone through the rules, I don't see how you could still be making so many mistakes. Haven't you been paying attention when we discussed them in class? You're just going to have to buckle down and try harder."
2. In an elementary school, after a pupil has read aloud the teacher says: "That was wonderful, Jimmy. I'm so proud of you. I like the way you read. I can always count on you, can't I?"
3. A teacher returns a social studies assignment with these comments: "This is inexcusable. I've never seen such sloppy work. This is not sixth grade work at all--I'd expect a second grader to be better."

Sources:

Aschner and Gallagher, Bellack, Flanders.

Rating--Task Oriented

Definition:

Teacher statements which communicate positive or negative judgments about a pupil's response or performance; teacher verdicts about the quality of a performed task.

Indicators:

Task-oriented ratings, whether positive or negative, focus upon the task in an impersonal, matter-of-fact way. Such comments avoid communicating a personal rating of the pupil.

Illustrations:

1. In English class, the teacher returns a paper to a pupil with these comments: "Please re-write this essay, Sandra. The premise is a good one, and the paper is all right as a first draft, but it's not acceptable as a final product. Notice the comments I've written in the margin. That first long paragraph really deals with two distinct ideas. See if you can separate them out. Also, there are three instances on non-agreement between subject and predicate, and in one instance part of a compound object is in the wrong case. And you had trouble again with some run-on sentences, which I've marked."
2. Task-oriented ratings may also be illustrated by very brief teacher statements during the course of instruction, as follows:

   Teacher: Helen, can we express 54 this way? (writes 54=3x2x9)
   Student: Yes.
   Teacher: And these numbers--3, 2, and 9--what can you tell us about them?

Student: They're all prime factors of 54.
Teacher: No. That's wrong. One of them is not a prime number.
Student: Oh--nine. Three times three. Nine isn't a prime number.

Sources:
Aschner and Gallagher, Bellack, Flanders, Hughes.

VI.

Groups

The Selection and Organization of Concepts about Groups

Just as the domain of content was subdivided into the two major columns of categories of content and concepts about the control of content, so concepts pertaining to teachers and groups functioning in classrooms are separated into the two major subdivisions of Characteristics of Classroom Groups and Subgroups and Teacher as Group Leader. Unlike our strategy with the content domain, it has been necessary to imply, if not a hierarchy of concepts, at least the need to delineate some basic concepts about classroom groups and the concept of power or authority translated into teacher leadership styles. This must be done prior to dividing the domain into concepts of more specific applicability. Introductory concepts about the nature of classroom groups are those which identify the classroom in terms of aggregations and subgroups which may vary in composition, but which reveal the social relations of classrooms to be much more complex than is apparent to the untrained and uninitiated eye. Similarly, teachers behave in various ways vis a vis classroom groups, and they do so as means of achieving a variety of group outcomes. These tactics of teachers are fundamentally interrelated by virtue of the fact that most of them are variations upon the theme of teacher control or teacher power. Thus the introductory concept of teacher leadership style is one of vast significance to the domain, and it is only a minor overstatement to suggest that the other concepts about the teacher as a group leader are derived from this first and most central concept.

Beyond these first subdivisions, we have considered the basic criteria or the basic outcomes that teachers seem to strive for or to desire when they examine the students with whom they work as groups. This has led to the further subdivision of the domain according to concepts of Group Productivity, Group Morale, and Group Control.[5]

Groups

Teachers at elementary and secondary school levels ordinarily are confronted with sizeable numbers of pupils to deal with simultaneously. It is one of the continuing ironies of education that we recognize not only that learning is an individual affair, but that what people need and wish to learn, how rapidly they learn, and the manner in which they learn, may all vary widely from one individual to another; at the same time we classify, organize, and process pupils through the educational system as though none of these differences exist. Because of the way schools are structured, teachers therefore require knowledge about how human groups function. They need to know what leads to harmonious and productive relationships, what increases conflict, and causes a lack of goal achievement. Classrooms fit the category of human group in many respects. To that extent we may assume that principles which enable us to understand groups in the general case will also assist our comprehension of how groups of children and adolescents behave in classrooms. Thus we assume that concepts which are useful for the analysis of group functioning in general are also useful for the analysis of classroom group functioning. Thus concepts such as norm, role, status, cohesiveness, group conflict, and others have a rightful place in the cognitive structure of the teacher. Other concepts included in the catalogue draw upon or build from these basic concepts about group phenomena.

Collections of pupils brought together in classrooms also have special

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properties with important consequences for the teacher's work. Among these would be the homogeneity of pupils in age, the relatively great discrepancy between pupils and teachers in age, experience, and knowledge, and even the imposition of group goals from external sources.

There is the additional question whether classrooms are better conceived of as groups or as aggregations which over time or from time to time assume certain characteristics of groups, but which also include one or several small groups within their confines. The perspective that we have adopted in constructing this section of the catalogue is the latter.

In the first part of the conceptual delineation that follows, we present basic concepts about the classroom membership that views it as an aggregation; that is, composed of various subgroups, and possibly also with an individual or two who cannot be said to hold membership in any of the less formal congeries.

As we delineate concepts about subgroups it should be clear that it is impossible to predict all the dimensions of variation among subgroups, and certainly there is no possibility of cataloguing all the combinations of subgroups that teachers may encounter. The intention of the concepts included in this section is to illustrate (1) that some of the major relevant variables involved in subgroup formation (2) that control, morale, and productivity of classes are related to congruity between classes and their teachers on such issues as group goals and their achievement, and (3) that these outcomes are also affected by congruity among members of the various subgroups. For example, when children share the teachers orientation toward achievement, and the value of diligent application to schoolwork, teachers find the tasks of building interpersonal relationships and inducing desirable levels of productivity relatively simple and straightforward. But such a situation contrasts boldly with those in which teachers find subgroups in conflict with her, or with each other, or where both are true.

The Concept of Control

The breadth of concepts clearly depends upon their level of abstraction. Philosophers and theologians speak of "love" in the most abstract terms which manifestly subsume hosts of specific relationships; for example, the love of man and woman, of parent and child, of friends for one another. At lower levels of abstraction, other concepts might be more serviceable. The writer who wishes to communicate the anguish one feels at the loss of a loved one evokes concrete images--the bitter nostalgia of former, happier days--the memory of touching hands, of a fleeting smile.

In considering concepts appropriate for the study of interactive teaching, "control" has emerged as an overarching concept that overlaps at least two of the three major subdivisions of the catalogue, and which appears in numerous guises within each in more restricted conceptual forms. The category labelled "Control of Content" illustrates the point. The generic concept deals with the fact that teachers have at their disposal numerous tactics for increasing or diminishing the flow of substantive content, for manipulating its level of difficulty, or its cognitive form, and certainly for determining who participates in the public processing of content, when they do so, and under what conditions.

There is no question that these options, which are available to the teacher, represent instances of control. At the same time, and what is particularly difficult to portray, given the catalogue format, is that these

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types of control are one face of the behavior of the teacher, and the concepts identified under Groups in the catalogue are another face of the same behavior. Thus the teacher does not "control content" independently of his "control of groups." Our categories function much as a prism, filtering some elements as content control, some as group control, and so on. The behavior of the teacher, however, is as integrated as the rays of light before they are dissected by the prism.

As work on the catalogue progressed, numerous concepts were identified that, although they appeared to contribute something unique to the domain of interactive teaching, bore relations to the higher order and more general control concepts. This was the case for concepts of content control, as already illustrated, but also for concepts that pertain to group functioning. Although the necessary evidence is not altogether available, and we have definitely not tried to present concepts in this catalogue as though one were casual of another, or even that relationships are functional, it is nevertheless apparent that how the teacher behaves in the classroom is strongly influential upon the behavior of pupils. The basic categories of productivity, morale, and control into which we have subdivided the group concepts about interactive teaching clearly reflect that influence. There are two major studies in the research literature of interactive teaching that are particularly noteworthy for their exposition of the role of teacher control. We refer here to Flanders' widely known work on direct and indirect influence of teachers, and to Marie Hughes' study of elementary teachers. Flanders hypothesized relationships between pupil achievement (productivity), attitudes (morale), and the type of influence (control) exerted by teachers. He obtained some support for his contention that teacher leadership, which elicits forth pupil questions and ideas and shows acceptance of those same ideas, and helps pupils to extend and clarify their thinking is effective at points in instruction when goals are not yet clear, or fully understood and shared. Direct influence (control), consisting primarily of the teacher providing information, instruction, and directions, is more productive when goals have been determined. At that time pupils apparently are psychologically ready to deal with the specifics of content, and procedures for accomplishing goals that are not productive until goals have been established. Although the point has been ignored, Flanders observes that teacher flexibility (the teacher's ability to shift from one to another kind of influence in ways consistent with students' readiness) is a critical attribute.

Hughes' (1959) work emphasizes the significance of teachers' classroom control. Her system categorizes teacher behavior into seven functions. The controlling functions are dominant. These functions are not restricted to discipline, or group organization and management; they extend to the content domain as well. In Hughes' analysis, based upon three records for each of forty-one elementary teachers, slightly more than two-thirds of the teachers devoted over half of their teaching acts to functions of control. This control was often reflected by the teachers' insistence upon a single predetermined answer to a question, but also in what Hughes refers to as the "regulation of who." Teachers control who participates in the lesson, when, and to what extent. An important aspect of Hughes' work is her concept of "ameliorating the control function." Teachers can shift the burden of control and authority from themselves to the demands of societal conventions and of content when they emphasize those. This can enable learners to understnad that there are reasons that transcend the arbitrariness of the classroom teacher.

Teacher Leadership Style

One helpful way to analyze the relationship between teacher and group is to conceive of the teacher, in this capacity, as a leader. This theme of teacher leaderhsip will be maintained throughout the group section of the catalogue. Many of the concepts we have identified pertaining to the teacher's role vis a vis group productivity, control, and morale are variations of a few central concepts about leadership. We believe that those concepts at a subordinate level acquire added clarity and significance when they are embedded in an appropriate context.

This context includes major functions that the teacher fulfills as a group leader and the major classess of influence that he exerts upon the group (or subgroups). We have appealed to two major and longstanding sets of concepts to provide this broadened background. First, with regard to the functions of leadership, we cite the work of Stogdill and Coons (1957) on leader behavior. They identified two broad dimensions along which to assess leadership behavior: initiating structure and consideration. The extent to which a leader initiates structure is inferred from the clarity, specificity, and visibility with which the leader indicates the relationship between himself and his group members, and with which he establishes patterns of organization and communication, and procedures for achieving the goals of the group, or getting its work accomplished. Behavior of a leader high on the initiating structure dimension is characterized by adherence to specified procedures, clarity of demands, and minimal deviation by him or by others from the tried and true methods of operating. The role makes clear the expectations that are held for group members, and it stresses productivity.

Consideration is not antithetical to initiating structure, but it is different. Consideration refers to the leader's efforts to be sensitive and responsive to the feelings, needs, and desires of group members. Halpin (1957) defined consideration as "...behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and members of the group." It is of particular significance to our concerns with teacher leadership to note that consideration refers specifically, among other things, to the leader's willingness to explain his actions, to listen to group members, and to make use of their suggestions. These behaviors are identical with some that are part of the teacher's exercise of indirect influence which with direct influence, constitute our second set of broad contextual concepts.

Before we turn to issues of teacher influence, however, let us briefly review two points about the functions of structure initiating and consideration. The first is that these concepts were developed and used apart from educational settings for the most part, although some minor studies suggest they have applicability to teacher leadership also. The second point is that in a variety of settings (e.g., ratings of university department chairmen and of aircraft commanders) the best leaders were rated above average on *both* of these dimensions. (We should note the potential hazard of interpreting essentially correlational data as causal; i.e., well satisfied employees may rate their leaders high on the dimensions, which may have had little or nothing to do with bringing about their success.)

Direct and Indirect Teacher Influence

Flanders (1956, 1965, 1970) has been the chief spokesman for the effects of direct and indirect teacher influence upon classroom climate and learning. Essentially direct teacher influence has the effect of constraining or reducing the learner's freedom of choice and action, indirect influence expands choices, extends options available to the pupil. Under ordinary conditions both kinds of teacher influence play healthy and necessary roles in classroom teaching.

Flanders subsumes a variety of teacher behavior under each category. Direct influence is expressed through teacher lectures or other impartations of information, by the issuing of directions, orders or instructions, and by such actions as reprimanding or criticizing pupils. Indirect influence, alternatively, includes the behavior of teachers that indicate acceptance of pupils' reactions (including emotional ones), praising or rewarding pupil contributions, and attempting to help pupils clarify, understand, and extend the meaning of their work. Often indirect influence amounts to the teacher attempting to help pupils set goals, to structure problems so they can be solved.

Flanders has conceptualized direct and indirect influence in terms of verbal statements occurring in ongoing classroom interaction. In this sense, his concepts of influence are narrower and more delimited than initiating structure and consideration, but there seem clearly to be relationships among the two sets of terms. As was true for the structuring and consideration concepts, a body of data also exists in support of the effects of direct and indirect influence. Flanders asserts that the following effects have been discovered over long periods of time, and not for short-term, day by day use of direct or indirect influence. Our interpretation is that such long term effects are of considerable significance. Flanders (1959) summarized generalizations about the long term effects of direct and indirect influence in the following words:

> First, over any reasonable period of time both direct and indirect influence is used by all teachers, but teachers differ in the proportion of direct to indirect influence used over an extended period of time. Second, when the students of teachers whose proportion of direct to indirect influence is well above average are compared with those of teachers who are well below average, it is found that the students of the more directive teachers (a) imitate the teachers and use more direct influence in their own interaction, even in the absence of the teacher; (b) tend to score lower on scales that measure positive attitudes toward the teacher, the class, and the learning tasks; (c) demonstrate less spontaneity and initiative, make fewer voluntary social contributions, and account for less total student talk; (d) are more easily distracted from schoolwork (i.e., have less consistent work habits) and respond with greater compliance to, as well as rejection of, the teacher's direct influence. Third, in independent studies...similar results were found...(and)...in classes in which the teacher is perceived as being highly directive by the students, the classes reported doing less assigned work and less extra work than do those that are below average with respect to perceived teacher directiveness. These research results should be interpreted with caution...(but)...(they) do show that, over an extended period of time, a below-average proportion of direct to indirect influence will establish more desirable pupil attitudes and superior patterns for work. (Flanders, 1959, pp. 205-6)

Classroom Group Productivity

We shall suggest that the productivity of classroom groups can be characterized under two principal headings. This can only be done by failing to include some significant issues under either rubric, but, on the other hand, the classification system helps us to organize a broad range of concepts. One of these headings is "Regulated Productivity;" the other, "Divergent Productivity."

Regulated Productivity is to be defined in terms of two kinds; one of those concerns units of output that are designated and agreed to in advance. Examples of what is meant here might be the several sets of papers--arithmetic, language arts, and spelling, for example--that pupils in an intermediate grade classroom might produce in a given day. Thus, the teacher may assign a page of arithmetic problems, an essay to be written, and spelling words to be practiced a certain number of times before the end of the school day. Productivity is determined at the end of the day by counting and inspecting the units of work turned out. This does not preclude the possibility that productivity will also be assessed according to the completeness and correctness of the work, and also in terms of whether absolute production represents an increase or a decrease for a given group of pupils. The term "workflow"* comes to mind in describing this aspect of regulated productivity. Its second major defining element is that the outcomes are principally individual ones; each child produces, in the example above, one arithmetic

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*At the process level, as contrasted with products or outcomes. Kounin (1970) has studied teacher behaviors associated with work involvement (g.v.). Such work involvement would seem to be a limiting condition for both types of productivity conceptualized in the catalogue.

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paper, one essay, one sheet of laboriously copied spelling words, and so forth. Thus at one level the productivity of the classroom group is simply a summation of the productivity of all its occupants. Naturally amounts of work and quality will be influenced by group factors such as norms of productivity, but the reference here is to the fact that the productivity of pupils A, B, and C does not depend upon a division of labor, and the articulation of parts individually produced into a whole that represents an outcome of the group.

The underlying psychological processes and variables involved in regulated productivity would seem to be those associated with learning and with convergent thinking skills, and probably also variables having to do with incentive conditions, and perseverance. Cast in that light, the teacher behaviors of importance for regulated productivity are those characterized by such terms as "assignment giver," "initiating structure," "direct influence," "quality control," "standards holder," and others. All these have in common elements that pertain to the specification and clarification of expectations about work, and the level of demand. We would anticipate that teachers whose pupils have high rates of regulated productivity are well organized, make very clear to pupils just what work is to be done, how it is to be done, what standards of excellence are to be met, and what are the deadlines.

Divergent productivity is, if not less definable, certainly less predictable. Divergent productivity occurs when a pupil engages in an open ended quest for knowledge. This may be as minor (in terms of time involved and the simplicity of the problem) as searching for an answer to a question arising in discussion, or it may extend to long term commitments such as original inquiry in the science laboratory, writing a poem, play, or story, or the composition of music, choreographing, and so forth. Divergent productivity, as conceived of in this first sense would most often be an individual undertaking, but need not be so restricted. There is another sense of divergent productivity, and this is exclusively a group conception, not an individual one. In this second meaning, outcomes emerge from group decision-making or group problem solving. Again, this is called divergent productivity because the range of possible outcomes is large, and it is difficult or impossible to predict what the outcome of any group on any problem or issue will be in advance of the event. Concepts and skills involved here are principally those having to do with divergent production abilities such as the capacity to generate multiple ideas, to shift from one class or level of abstraction to another, and interpersonal skills that promote (or interfere with) the harmonious joint working relationships.

The behavior of teachers who support such divergent productivity would seem to contrast sharply with those necessary for furthering regulated productivity. However, it would be an error to conclude that the same teacher cannot foster both regulated and divergent productivity. Different psychological sets are no doubt necessitated, as are different skills, but there is no ostensible reason that the same teacher cannot be quite skillful in producing outcomes of both kinds (or equally unskillful in keeping either from occurring).

VII.

Concepts Defined in Groups

Aggregation

Definition:

The members of a classroom constitute an aggregation. This is signified by the fact that a collection of individuals are assigned to a given physical setting for a prescribed period of time to achieve goals which are imposed upon them by external authority. There is no assumption that all members are well known to one another, or that they share norms, values, and attitudes about school achievement, and the benefits or advantages to be derived from attendance at school.

Indicators:

1. The size of the class membership is larger than the amount that is usually designated as limiting the possibility for face to face interaction among all members.
2. Members are assigned to the class without their participation in the matter.
3. The basic goals of the class are imposed upon its members.
4. The conditions under which work in the class is to be done, and the activities to be pursued in achieving goals are imposed upon class members.

Illustration:

At the opening of the school year, Mr. Brown's first year biology students were assigned to his first, third, fourth, fifth, and seventh period classes by a computer. The basis for assignments was the limitation upon availably biology laboratory spaces, and students' other course assignment requirements.

Classroom Group

Definition:

A social system exhibiting the general characteristics of groups with the particular quality of the classroom group being shaped by the fact that it is essentially a formal work group functioning within the institutional setting of the school.

Indicators:

1. The formal goal of the classroom group is learning.
2. The formal goal is pre-established, independently of initial acceptance of determination by the group members.
3. Formal group leadership is predetermined in the position of the teacher; group members have no control over the teacher's selection.
4. Membership is mandatory rather than voluntary.
5. Although a formal work group, the classroom social system consists of informal as well as formal components.
6. Elements of the informal system (norms, goals, structure, etc.) may either conform to or conflict with those of the formal system from time to time and circumstance to circumstance.

Classroom Subgroups

Definition:

Characterized by their small size relative to the total group, and by the fact that membership within such subgroups is usually based upon mutual attraction, and shared norms and values rather than upon task dimensions common to the formal organization of the classroom. Subgroups of informal social composition exist within the framework of the larger formal classroom group or aggregation. Their existence is of importance because the relationships among subgroups and between such groups and the teacher bear heavily upon issues of productivity, morale, and control.

Indicators:

1. Subgroups within the classroom are typically of sizes that range between two members and perhaps six or seven.
2. At least through the years of the elementary school, subgroups tend to be composed of the same sex; that is, either all boys or all girls.
3. Subgroups tend to be formed through mutual attraction based upon shared interests, abilities, norms, and values.
4. Subgroups may be socially independent of others in the class, but often there are bridges from one to another, represented by mutual friendship choices that span subgroups.

Illustrations:

1. In Miss Adams' fifth grade class, the nine boys belong to two different subgroups. Bill, Jeff, and Tod enjoy working on models of rockets and other projects for science. Tom, Bob, John, David, Mike, and Curt are more athletic. Each recess and gym period is devoted to soccer, softball, or the sport of the season. The two groups of boys go their own ways with little contact between them.
2. Mr. H.'s eleventh grade English class is a constant sniping battle. Mary Lou's group, which includes many of the wealthier girls in school, and those more oriented toward social events, is in more or less continuous conflict with a group to which Sue and Pat and several others belong. Sue and Pat are very serious about their studies, especially the poetry and plays of the eleventh grade English course of study. Their enthusiasm and seriousness are the butt of many jokes and allusions from the other group.

Control of Groups

Group Control as an outcome comes close to the Stogdill definition of Group Integration which he defines as the ability of the group to maintain structure and function under stress. Integration is closely related to the purpose of the group and to its formal and operative structures. It is from inferences about the meanings of purpose and structure in relation to groups that variables in teaching behavior and pupil group outcomes were derived and selected as concepts for inclusion in the catalogue. Following are the concepts included under Group Control (Integration).

Accountability

Definition:

A dimension of group focus that refers to the degree to which the teacher holds the pupils responsible for their task performance during recitation sessions.

Indicators:

1. The teacher makes effort to assess children's behavior and communicates to them her knowledge of it.
2. The teacher requires pupils to demonstrate the skill or knowledge in question.
3. The teacher may employ the accountability tactic in focusing upon one pupil or the entire class.

Illustrations:

1. The teacher may require an individual student to recite alone during which the other pupils may or may not be attending. The recitation may be an arithmetic procedure, the rehearsal of memorized material, or the location of states on a map. As the pupil responds the teacher attends to his progress, asks questions, praises correct responses, corrects mistakes, calls for repetition, etc. He is focusing upon that pupil and holding that pupil accountable.
2. The teacher has several children working at the board on a set of problems. Children at their desks are working the same problems on paper. The teacher attends to the work at the board, and at the same time moves about among the seated children. From time to time she comments to members of both groups. At one point she stops and says, "I think Tom is having some trouble with a real tough problem here. Let's all watch him at the board and see if we can help."

Amelioration of the Controlling Functions

(This broader concept is defined in terms of three subordinate concepts that are developed on the following pages. Their collective purpose is to illustrate means available to the teacher to shift the onus of control from the seeming arbitrariness or idiosyncrasy of the teacher to broader based institutional norms and conventions. These concepts, plus the generic heading of Amelioration of the Controlling Function, are from Hughes, 1959.)

a. Neutral Regulation

Definition:

A tactic of classroom management in which routine procedures of the classroom are assigned on a public systematic basis. The purpose of neutral regulation is to divest the teacher of the need to make numerous minor decisions on a moment to moment basis, and to impose upon pupils the responsibility for certain ongoing procedures that enable classrooms to function.

Indicators:

1. Basic classroom procedures in the management domain are identified, and the means by which they are to be executed, and by whom, are clearly specified.
2. Those procedures are made public; that is, all pupils have access to information about them.
3. The development of procedures may or may not include direct participation by students. The concept of neutral regulation pertains to the existence and public availability and not to the sources of their development.

Illustrations:

1. Early in the year, Mr. Allen's 4th grade classroom was frequently in a state of chaos. After each activity of the day he had to stop and tell children what to do with their work, when to line up, and so forth. Before mid-October, however, he and the pupils had developed a list of classroom routines and a system for rotating jobs among pupils. For two weeks these rules were placed in a prominent position in the classroom, after which they were moved to the rear.
2. An observer in Ms. Adams 5th grade class noticed that Elmer sat in the rear of the room, adjacent to the teacher's desk. Was this a disciplinary precaution? No, when a mid-morning bell rang Elmer supervised a group of monitors who, in turn, were responsible for managing the class's organized departure to the gym. These specifics were part of an elaborate system of pupil classroom government that eliminated many specific routines and management decisions from her control.

b. Open Structure and Regulation

Definition:

Refers to teachers' habits and patterns of asking questions. Questions that are open in structure permit answers of various kinds; at a minimum they do not demand an invariant response. The open regulation part of the term signifies that the teacher does not identify a respondent. Presumably the use of open structure and regulation not only reduces the arbitrary control of the teacher over the recitation; it also demands that pupils assume more responsibility for thinking.

Indicators:

1. The term open structure and regulation refers to the question asking procedures of teachers. Its fundamental purpose is to avoid invariant demands for the form and content of answers and to reduce the teacher control over who responds to questions.
2. Questions which are open in structure allow the pupil some latitude in the range of acceptable responses.
3. Open regulation reduces the teacher's control over the process of pupil responding to questions. The objective is to widen the number of pupils in a class who participate in interaction, as well as to narrow the range of acceptable responses.
4. These procedures have the effect of making greater involvement by pupils and assumption of greater responsibility for content by pupils more likely than when teachers control interaction through closed structure and regulation.

Illustrations:

"Does anyone have another idea?" "What do you think should be done?" "Why did the Utah pioneers make the first settlements where they did?" "What do you think may happen because of the St. Lawrence Seaway?" (Hughes, 1959, p. 136)

c. Public Criteria

Definition:

To provide public criteria is to demonstrate to pupils that standards held for them or performances demanded of them are not the result of privately and arbitrarily held criteria by the teacher. On the contrary, such criteria are demanded by the content, or they may be criteria held by the society at large. Public criteria are sometimes represented in the form of universals, generalizations that subsume the pupils' activities of the moment.

Indicators:

1. Public criteria make it clear that standards of evaluation are determined by broad bases of agreement, as in the case of how sentences are punctuated or the form of mathematical solutions.
2. Public criteria diminish the extent to which judgments or evaluations are the arbitrary province of the teacher.
3. Similarly the public nature of criteria militate against the use of privately held (and therefore unexpressed) criteria for the rendering of judgments, decisions and evaluations of pupil performance.

Illustrations:

1. Classroom standards and requests are often carried out with little meaning to children. The relationship of what is required of them to the larger society is seldom clarified. For example, a group of intermediate grade children were making designs with tile. The teacher spoke to them. "We want to be sure the design is here the way you want it. It's easier to erase paper. That's the reason I have you do it this way." Here the teacher had an opportunity to indicate the universality of making of models, of drawing plans and specifications before attempting the work in the final medium. Instead, he made himself the source of requirement with "You can erase it" as a weak public criteria (sic).
2. Another teacher used a generalization of universal application in the episode that follows:

    A primary teacher was helping a child who was preparing a story for tape recording.

    T: Maybe you're reading just a little too fast to put on the tape recorder. You read rapidly when you read to yourself but when you read to others you need to read slowly enough for others to hear.

    Ch: (Makes comment which indicates that she thinks all reading should be slowed down and says she will slow down all of her reading.)

    T: No, don't slow down when you read to yourself. When you read to yourself and see the words you can think about them much faster than when you hear them. So when you read out loud you have to read slowly but when you read silently read as fast as you can.

    Rules and standards related to safety on the street, highway, school bus, and swimming pool are Universals. Behavior appropriate to public places, such as a library, a bank, a restaurant, a lecture, are sufficiently prescribed and approved to be upheld as Universals of the culture (Hughes, 1959, pp. 139-140).

Sources:

Hughes, 1959; Hudgins, 1971.

Avoidance of Group Maintenance

Definition:

The avoidance of group maintenance is a posture toward the group taken by members of the group that turns away from the confrontation with a solution of affective inter-personal problems. It is manifested in the verbal behavior of the group by self-defense and hostile statements from the members, by irrelevant narrative that skirts the problems, by dogmatic statements, intellectualization, and defensive joking.

Indicators:

The indicators of group avoidance as an outcome may be any one or more of the following:

1. Statements in self-defense by more than 10% of the members of the classroom group, e.g., statements reflecting negative self-evaluation.
2. More than 10% of the group express hostile statements toward others, negative criticism of persons or objects, sarcastic or denigrating opinions and questions.
3. Members of the group avoid dealing with group topics by relating anecdotes that have occurred outside of group, by fantasizing, by digressing from topic or persons related to group.
4. Members of the group engage in intellectualization, defensive joking, or dogmatic value judgments to turn attention away from group concerns.

Illustration:

Teacher: "All right, how are we going to assign responsibilities for putting together our Roman newspaper."

Student: "Hey, I remember when we did a Colonial newspaper once in 8th grade and we sold it in the cafeteria. We made $3.00."

Teacher: "Great. Any ideas about how to organize this one?"

Student: "This whole thing is a stupid idea. Whoever heard of a Roman newspaper? They couldn't even read."

Another Student: "How dumb can you get? I want to be the editor of the paper. I never get to do anything really important."

Teacher: "Well - wait a minute - we need to agree on a plan to divide up the work."

Another Student: "Work! It's a fact that people can't be motivated today with references to the work ethic. In Puritan times work was central to the drive for accomplishment and salvation and..."

Another Student: "Why don't you shut up? Hey, I've got an idea. Everybody ought to do his own paper in his own way. Here's mine: Friends, Romans, Countrymen, lend me your ears - mine are frostbitten."

Teacher: "O.K. That's enough horsing around. I guess I shouldn't have presented the idea of a Roman newspaper. I'm sorry."

Challenge Arousal

Definition:

Direct attempts by the teacher to get the children more enthusiastic, involved, or curious about academic activities.

Indicators:

1. The teacher shows zest and enthusiasm for the activity she's promoting.
2. The teacher makes a statement pointing out that the activity possesses special positive valence.

3. The teacher mades a statement pointing out that the activity possesses some special intellectual challenge. (Kounin, 1970, p. 130)

Illustrations:

1. The teacher says, "This next one's going to be fun; I know you'll enjoy it." (Pointing out that activity possesses some special positive valence, Kounin, 1970, p. 130)
2. The teacher says, "You're going to need your thinking caps on for the next one. It's tricky." (Pointing out that the activity possesses some special intellectual challenge, Kounin, 1970, p.130)

(Note: Kounin verbatim)

Conformity or Conforming Behavior

Definition:

Behavior of a group is conforming when behavior matches an expressed expectation and that expectation can be said to cause the behavior. In the classroom group situation it is the teacher who usually expresses the expectation. The pupils constitute the group from whom conforming behavior is expected.

Indicators:

The conformity model must contain:

1. A source person (the teacher) who expresses an expectation and who can exert pressure for conformity.
2. The group as focus of the expectation.
3. The behavior outcome must be similar to and determined by the expectation.

Illustrations:

1. "Fire drills are an important part of school life. We all need to be ready to act quickly and surely when the buzzer sounds. Now, I want you to line up in twos at the door, walk quickly, but don't run, to the staircase by the library, down that staircase and out the front door." Pupils line up, teacher opens door, pupils walk briskly down hall to staircase, down stairs, out front door.
2. Pupil finishes giving demonstration of use of the hunting bow. Teacher says, "That was a very interesting report, Jack. We all enjoyed it, didn't we? Let's show Jack our appreciation with a big hand for him!" Teacher claps. Pupils clap.

Developing Group Cohesiveness

Definition:

Describes an ongoing and consistant pattern of teacher behaviors that emphasizes attractiveness of group as a group, clarifies the benefits to the individual of belonging to the group, indicates approval and appreciation to group, uses group as a vehicle for helping members learn new and interesting things.

Indicators:

The indicators that a teacher is consciously and consistantly working at developing group cohesiveness may be repeated instances of one or more of the following:

1. The teacher creates awareness that some personal needs of members can be fulfilled by functioning with the group.
2. The teacher stresses satisfactions to be derived from working with other class members.
3. The teacher takes every reasonable opportunity to praise the group when it deserves praise.
4. The teacher provided attractive activities for group effort that dramatize new and interesting things to learn as a group.
5. The teacher provides opportunities for the group to plan together and to use cooperative techniques to attain the group goal.
6. The teacher communicates to the group favorable evaluation of the group by outsiders.

Illustrations:

A sixth grade class was working on an elementary economics curriculum and struggling with the concept "specialization." The teacher said, "This is an idea in economics that is pretty hard to understand just thinking by yourself. We need to do something together to see how specialization works in group life." The teacher suggested that the class turn itself into a bakery for a day. She would arrange use of an oven. "Do you have some ideas about what this Bakery should bake?" The students suggested cakes, cupcakes, cookies and finally settled on Gingerbread Men. The teacher helped them understand all that was involved in producing several dozen Gingerbread Men--finding the recipe, shopping for ingredients and decoration, measuring, mixing, rolling and cutting, decorating, baking, watching and waiting, cooling and eating. She dealt with recalcitrants in a way to bring them into the group. "Baking cookies isn't just for girls, Denny, In big bakeries the cooks are men. Besides, someone strong has to stir that stiff dough, lift the trays from the oven, deliver the cookies." The children soon divided up the tasks of the cookie-making business and looked forward to Baking Day. One group measured, Denny's group stirred, others rolled out the dough, and still others cut out the figures. Everybody had a chance to stick in the eyes and buttons and the watchers watched and waited. The teacher asked a happy group of cookie eaters if they had an idea of the meaning of specialization. Everyone knew because he had been a specialist of sorts. The following

day the teacher read the class a note from the principal:
"Dear Ms. B.,
You will be happy to hear that the ladies in the kitchen commended your class for leaving the kitchen spotless. I want to commend them for the best Gingerbread Men I ever tasted."

"I'm very proud of you, class. You really worked extremely well together and best of all you have all learned something about economics from the cookie project."

Source:
Bany and Johnson, pp. 72ff.

Deviance Control

Definition:
A statement or statements directed at controlling the immediate interpersonal situation; it assumes that one or more people are violating group or personal norms.

Indicators:
1. One or more target individuals are selectively identified by name, gesture, or visual cues.
2. A specific and narrow course of action which has been previously learned is either implicitly or explicitly prescribed.
3. Rewarding or aversive consequences are implicitly or explicitly attached to compliance or non-compliance.
4. The response is expected to be immediate rather than delayed.

Illustrations:
1. Student: "Doggone you, Richard, gimme back my eraser."
   Teacher: "Knock it off, Willie. What's the matter?"
   Student: "He swiped my eraser."
   Teacher: "Did you?"
   Student: "Just borrowed it."
   Teacher: "Give it back. Both of you get to work. We don't shout in here; we don't borrow things without permission; and we don't disturb other people who are working."
2. Teacher: " Eyes on your own paper, Marie. This is a test. I don't want you to tell me what Josephine knows. I want to know what you know."

Sources:
Oliver and Shaver, Openshaw and Cyphert, Amidon and Hunter, Taba.

Dictatorialness

Definition:

The quality or state of imposing one's will or opinions on others, in this case, on the classroom group. Dictatorial behavior stresses autocratic, high-headed methods and a domineering manner in dealing with the group.

Indicators:

Dictatorialness as a teaching attitude toward the group is indicated by any of the following dominative behaviors:

1. The teacher determines a detail of activity or acts for the group in carrying out a detail. Example: "Color the leaves green on all the flowers, children." "I'll take your request to the principal."
2. The teacher gives a direct refusal to a group request without stating reasons. Example: "We're not going outside and that's the last I want to hear of it."
3. The teacher arbitrarily relocates members of the group, puts them in locations other than that which they have selected. Example: Not all the boys over in one corner. And, girls, I want you to move away from the windows."
4. The teacher postpones group activity, slows it down, or otherwise restrains the pace to suit his convenience. Example: "I'll let you get started on the play when I don't have so much else on my mind."
5. The teacher blames the group and expects the final judgment to rest at that. Example: "It's your own fault that you did so poorly on this test."
6. Teacher gives group warning or makes conditional promises. Example: "If you don't settle down we just won't go on field trips anymore."
7. The teacher gives a "Now Hear This" command. Example: "All right class. All eyes on me, hands folded on desk, feet quiet on the floor."
8. The teacher rations out material when the supply is plentiful. Example: "No more than one book off the shelf at any one time... And only one felt marker to a group. Put those sticks back, one stick per jar."

Source:

H. Anderson. Creativity and Its Cultivation. New York: Harper and Brothers, 1959.

Establishing the Basis of Power

Definition:

Establishing the basis of power refers to teacher behaviors designed to communicate to the group the justification for using authority as a teacher to require the group to do something it resists doing.

Indicators:

Five major patterns of power establishing behavior are suggested as indicators of teacher behavior intended to establish a basis of power.

1. Establishing Reward Power: Reward power is based on the groups perception that the teacher has the ability to mediate rewards for it. Teacher behaviors will reinforce that perception and emphasize reward-giving ability.
2. Establishing Coercive Power: Coercive power is based on the group's perception that the teacher has the ability to mediate punishment for it. Teacher behaviors will reinforce that perception and emphasize the ability to give or withhold punishment.
3. Establishing Legitimate Power: Legitimate power is based on the perception by the group that the teacher has a legal right to prescribe behavior for the group. Teacher behaviors will reinforce that perception and emphasize legitimacy of position.
4. Establishing Referrent Power: Referrent power is based on the group's identification with the teacher as colleague. Teacher behavior will reinforce that perception and emphasize collegial relationships.
5. Establishing Expert Power: Expert Power is based on the group's perception that the teacher has special knowledge or expertise of value to the group. Teacher behaviors will reinforce that perception and emphasize the teachers' expertness.

Illustrations:

1. Reward Power: "Once you have your individual point total in English, you can add bonus points to it by participating in group activities: debates, plays, the Literary Magazine, film-making. It's up to the group to decide whether you want those bonus points from me."
2. Coercive Power: I'm not the easiest teacher in the school, you know. I demand attendance in my classes and pre-arranged absences. Unexcused absences by any member of this class for the field trip will be grounds for forfeiting it for the entire group.
3. Legitimate Power: "If you want to challenge my authority to insist on bringing your books to class, you need to know that it is not just me you are challenging. It is the total bulwork of the American institution of education. My authority comes from the School Board which, in turn, gets its authority by law from the citizens of this district and the authority is granted by the State. I am here, legally bound, to serve the citizens of this district in educating the young."
4. Referrent Power: "Sure, I'm with you in rebelling against the Dress Code. Why shouldn't we be free to dress as we wish while learning? You don't see me in ties and suits. I like what you like--casual dress, expressive style. It's a mod, mod world. They better wake up down at the Administration Building."

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5. Expert Power: "Now in spite of what your author claims about Wilson, that is patently not an accurate picture of what happened at Versailles. I was fortunate enough to work with the original Lansing papers in my graduate studies at Princeton and I am going to share with you some truths about Wilsonian politics that very few people know."

Source:

French and Raven, "Bases of Social Power" in Dorwin Cartwright's Studies of Social Power.

Group Alerting

Definition:

That dimension of group focus which refers to the degree to which teachers keep children attending actively ("on their toes") while selecting reciters. (Kounin, 1970, pp. 110, 117)

Indicators:

1. Group alerting refers to any of a variety of tactics whereby the teacher solicits activity on the part of the child; usually the tactic involves questioning.
2. Alerting may vary from completely predetermined selection of reciters to a completely random selection. The former would occur when a teacher calls upon pupils in alphabetical order or by seating order. The latter would occur, if it is impossible to tell who will be called upon or in what order.
3. Alerting tactics may be said to be positive or negative. The former are those which tend to keep children actively attending either while another pupil recites or while waiting for someone to be selected to recite. The latter are those which tend to permit attention to wander during recitations.

Illustrations:

1. Negative Group Alerting: Mrs. Holly is teaching her second grade arithmetic class the multiplication tables. The classroom dialogue goes like this: "Susan, how much is 6 times 2?" Susan answers, "6 times 2 is 12." Mrs. Holly then says, "John, how much is 5 times 3?" John answers, "5 times 3 is 15." Mrs. Holly continues calling the name of the pupil before she asks the question. The assumption is made that when the reciter is identified prior to the question, other children may "tune out" without great risk of exposure. Any alerting tactic in which selection is predetermined is considered negative group alerting.
2. Positive Group Alerting: Mrs. Jackson is teaching her second grade class the multiplication combinations. Her classroom dialogue goes like this: "How much is 6 times 2?" She looks around the class. After a few minutes she says, "Jane?" Jane answers.

Mrs. Jackson continues, "how much is 5 times 3?" She looks around the class, then calls on Mark. Mark answers. She goes on, "How much is 8 times 4?" She looks around then says, "Everybody." The class answers. It is assumed that when selection is unpredictable, or when a directive is universal ('everybody'), all pupils are required to attend actively. (Represents a teacher's attempt to involve non-reciting children in the recitation task and maintain their attention.)

Group Cohesiveness

Definition:

Group cohesiveness describes a condition of a classroom group in which members of a group function as a unit and are free from dissention, conflicting interests, and disrupting forces. Cohesiveness as a group characteristic can be inferred from the attraction the group holds for the members, including resistance to leaving it; the motivation of members to participate in group activities; and the coordination of the efforts of members.

Indicators:

After the class has met as a group long enough to get acquainted and established, the extent of group cohesiveness may be indicated by one or more of the following:

1. Members of the group use the pronouns "we" or "our" when speaking about group activities.
2. The group is largely task oriented; personal cliques and personal bickering are rare.
3. The group has resistance to disruptive forces, both interanl and external.
4. Members of the group share with one another, help one another and are friendly to each other.
5. There is evidence of adherence to group standards for behavior.
6. Members of the group adjust to change, retain unity under stress.

Illustration:

Just after the end of the first marking period the Geometry teacher had to leave school for a few days because of illness in her family. It was unexpected, and she had no chance to prepare her classes. When the substitute, an older man, appeared in the first period class, he indicated that he was at a loss as to where they were in the book. Several students offered to help orient him. "Our class was just beginning Theorem 12, but some of us need to review a little."
"We have some practice problems that we can work on."
"Jeff and Larry sometimes help us dummies."
Substitute: "Good. Suppose we let Theorem rest awhile. You know where you need help. Jeff? Larry? Can you do some tutoring? I'll take a group. Anyone else?"

Student: "Before we get started I think classes on the second floor are supposed to get their pictures taken this period. We're supposed to report to gym."
Another Student: "No, we're not. Come on, Chuck, nice try; let's get some work done before the period is over."

Source:
Bany and Johnson, Chapter Four.

Interpupil Cooperation

Definition:
Within group classroom relationship among pupils characterized by strong motivation to complete the group task, greater division of labor among pupils, high communication among pupils, expression of friendliness among pupils.

Indicators:
Interpupil cooperation is indicated when one or more of the following characteristics describes the group:

1. Individual members express or show strong motivation to complete the group task.
2. Members express strong feelings of obligation toward one another.
3. The work on the task is divided, but there is considerable variability in the contribution of each member.
4. Communication between pupils takes place frequently. Ideas are verbalized and there is relatively high acceptance of ideas among group members.
5. Generally, non-verbal communication is in a positive mode - laughing, smiling, touching is frequent while pursuing the task.

Illustration:
A group discussion is taking place on how to spend party fund.
Derek: "Yeah, we could spend half of it on the Valentine party and half of it at the end of the year."
Class: "Yeah, two parties..."
Dale: "What would we do at the end of the year?"
Beth: "Have a going away party..."
Class: "Go swimming a lot; go swimming..."
Sherry: "Just a minute..."
Class: "Go swimming in the park; yeah..."
Beth: "Yeah, have a picnic lunch..."
Class: "Go swimming; yeah..."
Derek: "Well, what do you suggest then if you disagree with everything?"
Dale: "I'm not a good suggester."
Derek: "Um hum."
Dale: "I'm not."

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Momentum (vs. Slowdown)

Definition:

The dimension of classroom management that indicates the rapidity (or slowness) with which classroom activities are carried forward.

(Kounin defines momentum principally through instances of its negative counterpart, which he labels "slowdown." Kounin, pp. 102-108.)

Indicators:

1. The quality of teacher talk is limited only to that necessary to assure understanding of task requirements.
2. References to props and their deployment are pertinent and efficient: materials are distributed quickly.
3. Activities are organized so that behavior can be performed in a single, uninterrupted sequence, rather than being fragmented into unnecessary sub-parts.

Illustrations:

1. The literature on classroom management suggests that "momentum" has often been conceptualized, or at least illustrated, in terms of negative instances. For example, Kounin describes a teacher slowly passing out papers one sheet at a time to one pupil at a time, dragging out the procedure "to the point of focusing more of the children's attention upon the props than upon the task for which they are to be used." This he calls an example of "slowdown." One could describe a similar instance in which the papers had been arranged previously into sets for each pupil, and the sets pre-counted and stacked for easy distribution by passing from the front to the back of each row. To the extent that the latter procedure would require minimum delay and distraction, and would thereby keep relevant activities moving forward, it would be an illustration of momentum. (Kounin, 1970, pp. 103-104)
2. Classifying classroom events with regard to "momentum" of "slowdown" appears particularly susceptible to varying interpretations which depend upon background information. For example, Kounin (1970, p. 104) offers the following as an example of "slowdown."

> The teacher was explaining adding by twos to the children in preparation for their selecting answers in their workbooks for a seatwork assignment. She walked to a large chart which had all the numbers from one through 100 listed consecutively. In a unison fashion she had the children call out with her while she was simultaneously naming the odd numbers: "One, three, five, seven, nine, eleven, thirteen, fifteen, seventeen," and on through ninety-nine.

Depending upon the interpretation of the data given, and the assumptions one makes from their implications, an alternative classification seems equally appropriate. "The teacher was explaining adding by twos..." This fact suggests that learning to add by twos was a learning objective, and that the workbook assignment had something to do with its achievement. One might assume that counting by twos was also a skill which the teacher regarded as significant enough to be overlearned; that is learned to the extent that pupils could provide correct responses well beyond the point of initial mastery. Therefore frequent practice would be in order. There is no evidence in the data to suggest the degree of understanding that children had already acquired. Therefore the "elaborate" practice may have indeed been essential preparation for the workbook assignment.

Resisting Restraint

Definition:

A group coping strategy in which the group attempts to balance or outweigh the influence of the teacher on the group's degree of freedom in movement toward a goal. At stake is the freedom to act, interact, or reinforce group expectations.

Indicators:

Tactics employed by a sufficient number of group members to have a thwarting or distorting effect on teacher intent to influence are indicators of the existence of a strategy intended to deal with restraint. Any one of the following may be demonstrated:

1. Neutralization tactics. Those behaviors that distract the teacher from focusing on his restraining move. The restraint is not lessened but it fails to increase or further influence.
2. Apple-polishing tactics. Teacher ego-enhancing behaviors engaged in by the group intended to mitigate the ultimate effects of restraint and to short-cut the group's movement toward and desire for reinforcement of expectations.
3. Withdrawal tactics. Those behaviors that remove the group as a responsive target of teacher influence.

Illustrations:

1. Neutralization tactics. The Social Studies teacher asks the class to number off by fives in order to form discussion groups to work on five topics she has on the board. All the topics are related to the Energy Crisis. The students begin reacting:

   "Haven't we worked the Energy Crisis to death? I'm suffering from Overkill."

   "I'm a number 3 again. Can't I be a 4? I work better with even numbers. Let's number over."

   "Hey, you said you were going to tell us about the windmills that your father made. I'm more interested in stuff like that."
2. Apple-polishing tactics. The same social studies class views the same five topics, numbers off, and begins to push chairs into circles.

   "This energy stuff is really interesting, Miss Sales. I've already talked my family into sending for the solar energy booklet."

"Miss Sales, can you join our group for a minute? We think you could give us some good background on windmills."

"It's too bad everybody doesn't know all we know about the energy crisis."

3. Withdrawal tactics. The same social studies class hears the command to number off, scans the topics on the blackboard.

   "One." "Two." Silence.

   Teacher: "Jim, you're three, go ahead, Becky, four."

   "Four." "Five." "Six."

   Teacher: "No, no sixes. Start over. One. Alright, Chuck - Two."

   The numbering is finished by the teacher, pointing and numbering. No one moves into circles. Several students fold their arms on their books and put their heads down. Others continue to read paperbacks or write letters.

   Teacher: "Come on, get into your discussion groups. Do you have questions? Yes?"

   Student: "Can I go to the bathroom?"

Source:

Ideas of tactics and names of tactics from John Holt's How Children Learn, 1967 and How Children Fail, 1964.

Sanctioning

Definition:

A strategy for inducing socially appropriate behavior. Broadly defined, sanctioning is an instrumentality by which the teacher allocates rewards and punishments to group members in consequence of adherence to or departure from the behavioral norms prescribed by the group or by the teacher.

Indicators:

Sanctioning is indicated by the use of sanctions, rewards and punishments which may be physical or non-physical, verbal or non-verbal. The following are examples of sanctioning:

1. A statement by the teacher that expresses approval of the behavior or attitude of the group.
2. A statement by the teacher that exceeds simple approval, that praises and rewards the group for its performance, behavior, ideas or attitudes.
3. A statement by the teacher that relates to the status of the group as a group, increasing or decreasing its perceived prestige.
4. Statements by the teacher directed to the group that are harsh, punitive, blame-laying, shaming, ridiculing, or otherwise guilt-inducing.

5. Statements by the teacher that show personal rejection of the group by the teacher.
6. Non-verbal expressions that imply the sanctions in 1 - 5 above, e.g., frowning, glaring, staring, purposely ignoring or smiling, signalling.
7. The use of physical force to coerce, e.g., blocking a door, turning off movie, picking up materials.
8. The use of material rewards, e.g., tokens, candy, prizes to reward behavior of group.

Illustrations:

1. Indicator 1: "Everyone has finished all the assignments. You ought to be in good shape for the test." (Positive sanction: Approval)
2. Indicator 2: "The librarian told me again today what a treat it is to have our class use the reference library. I told her it was just another of your outstanding qualities." (Positive sanction: Praise and Reward)
3. Indicator 3: "This has got to be the most uncooperative class I've had in a long time. First graders can get it together faster than you seem to be able to do." (Negative sanction: Decreasing status, Deflating prestige)
4. Indicator 4: "You ought to be ashamed of yourselves. Everybody else clapped politely in assembly, but no!, that's not good enough for you. You have to stomp and whistle and generally show-off." (Negative Sanction: Shaming, Sarcasm)
5. Indicator 5: "If I weren't obliged to sit with you until three o'clock, I would leave this bunch of whiny babies right now." (Negative sanction: Personal Rejection)
6. Indicator 6: The teacher approaches six students engaged in small group discussion. He listens a few minutes, smiles, nods, gives the O.K. sign as he walks away. (Positive sanction: Approval, Praise)
7. Indicator 7: Students are watching a movie. There are a few giggles, whispers. Teacher asks the group to quiet down and pay attention. More giggles and a book falls on the floor with a thump. Teacher shuts off projector, turns on lights, walks to door indicating no one can leave without knocking him over. (Negative sanction: Use of physical force to induce compliance)
8. Indicator 8: Teacher stands at door watching pupils in line at drinking fountain. As they finish their turns and return to their seats, she says, "You behaved yourselves very well at recess and no one pushed or shoved at the drinking fountain. You've earned your reward. Phyllis, break out the M and M's." (Positive sanction: Material rewards)

Satiation

Definition:

The point at which pupils begin to exhibit decreased interest in an activity because of its repetition.

Indicators:

1. Satiation is a process: at first the pupils may like the activity less than before; ultimately they may dislike it altogether.
2. It is manifested by decreasing quality of work, increase of errors, and task redifferentiation. (Kounin, 1970, p. 126)

Illustrations:

1. A ninth-grade English class is engaged in checking a "double" homework assignment of two exercises onthe use of irregular verb forms. Each assignment consists of from 25 to 30 incomplete sentences for which the students are to supply the correct form of an irregular verb. The homework papers consist only of numbered lists of verbs rather than complete sentences. Papers have been exhcanged, so that pupils are "checking" each others' papers. The procedure requires the reciting student to read the sentence aloud and to complete it by supplying the correct verb, which he usually does by referring to the list that he is checking. If the response is indeed correct, the teacher responds, "right," or "OK," and calls on someone else, usually by saying, "Next, Joe..." If the response is incorrect, the teacher says, "no," or "wrong," and then, "what's right there Bob?" Most of the initial responses, however, are correct. After a short time students show signs of restlessness, inattentiveness, boredom. Here the substance of the activity changed slightly from item to item, but not sufficiently to offset the dulling effect of the highly repetitive recitation pattern itself.
2. Pupils are required to write their multiplication tables from 1 through 12. The children begin to write neat arithmetic sentences, 0 x 1 = 0, 1 x 1 = 1, 2 x 1 = 2, etc. in more or less straight columns. As the task wears on, however, the writing becomes sloppier, columns meander and sway, the figures become crowded and bunched. After a time, some pupils abandon the "complete statement" procedure and begin to make a column of figures from 0 to 12, then a column of x's, then a column of 5's, or 6's, or whatever the multiplicater happens to be, and so on. (This is redifferentiation, after Kounin.)

Setting Expectations

Definition:

Those aspects maintaining social order which indicate specifically how pupils shall proceed. Expectations can be set with personal teacher influence at a maximum or expectations can be set with reference to societal norms, group developed standards or the more personal wishes of pupils.

Indicators:

The setting of expectations for the group can be indicated in generally directive or generally responsive modes and may include any of the following behaviors:

1. Admonishing, before the act, implying that the group is not going to do what is correct and expected.
2. Teacher gives an edict concerning acceptable and required procedure. The teacher states the expectation by edict before action takes place and the standard is based upon the teacher's own reasoning and decision.
3. Teacher avoids explicit answer as to how to proceed by giving a "brush off."
4. Teacher gives expectation in moralistic context, preaching, moralizing about what ought to be done.
5. Teacher invokes societal universals when setting expectations for group.
6. Teacher helps group set standards for behavior or quality of performance, helping them establish criteria, perhaps asking them to recall a similar past instance.
7. Teacher sets expectations by responding directly to a request and specifying public criteria if the request is denied.

Illustrations:

1. Indicator 1: Admonishing. "Now, remember, I want a lot of materials around the room but I want them organized."
2. Indicator 2: Sets standard by edict. "Only one person can be out of the room at any one time and that's final."
3. Indicator 3: Brush-Off. "I'll decide about that at another time. Just wait until I say something about it."
4. Indicator 4: Moralizing. "Now, everybody knows that practice never hurt anyone. We'll do this over and over until it becomes a habit with you."
5. Indicator 5: Appeal to Universals. "We always write the topic sentence first and then support it with details." "We always let the shorter people sit in front so they can see."
6. Indicator 6: Helps group set standards. "What are some reasonable standards that we might set for ourselves concerning tardiness?"
7. Indicator 7: Expectation by Request. "No, you may not use your books for the test because I need to check thinking skills, not copying skills."

Student Involvement in Decision-Making

Defintion:

The amount and kind of student participation in classrom interaction addressed to the goal itself or to problems impeding the goal task.

Indicators:

The indicators are the frequency, distribution, and quality of responses made by members of the group concerning: the general learning climate; the acceptance of action, ideas, feelings of others; the clarification and amplification of the contributions of another member of the group; the commitment to action.

Illustration:

Teacher: "Now let's take a different map - one in the 1970's in Western Africa. Use the items that we have listed as criteria for locating a city. This is 1970, remember. Where would you advise this government to locate a city--at site A, B, C, or D?"

Student 1: "The river ought to be an important consideration, Right?"

Student 2: "Yes, and they can just go on the river right from D."

Student 3: "But don't you think D is too far upriver from the ocean?"

Student 1: "That's true...C's got water and it's got...How about C?"

Student 4: "But look how far from the railroad you are at C. They need the railroad to get stuff back into the villages."

Student 5: "They don't need the railroad."

Student 2: "Yeah, they do. Why don't you think the railroad is important?"

Student 5: "I just say you don't need to have the city on a railroad. There's roads."

Student 6: "Look, Betty--Food will be coming in on the train. They have to eat."

Student 7: "They can catch their food; that's all open land around C with game and fish."

Student 8: "Wait a minute. Wait a minute. I get this funny picture of a big city and everybody brings a fishpole and bow and arrow to work to get his own lunch." (Laughter from rest.)

Student 6: "Yeah. They'd fire us as city planners for sure."

Student 9: "O.K.--so A and B are definitely out. They are in the Boonies. That leaves us with D."

Student 2: "That's what I said in the first place. Oh, well, somebody said 'Nobody listens to a prophet in his own country.'"

Source:

Richard Ober, Reciprocal Category System, RCS, Morgantown: West Virginia University, 1968 (mimeo).

Teacher Awareness (With-it-ness)

Definition:

The dimension of teacher behavior that demonstrates a knowledge of what behaviors pupils are engaged in whether individual or interactive, or inside the classroom or without. (Kounin, 1970; Smith and Geoffrey, 1968)

Indicators:

1. The teacher is not directly or exclusively attending to the behavior of the pupil or pupils involved.
2. The teacher communicates to the pupil or pupils, by verbal or nonverbal, subtle or open expression that she knows what is happening.
3. The behavior of the pupil or pupils may extend from the minute-by-minute variations in classroom activities (Kounin's definition) to activities of a more lasting nature, such as social, academic, and psychomotor abilities (Smith and Geoffrey's definition).
4. Pupils in the classroom evaluate the degree of accuracy of the teacher's information.
5. The pupil's judgment concerning the accuracy of the teacher's awareness affects the consequent behavior of the pupils in the classroom.

Illustrations:

1. Jane has passed a note to Mary during arithmetic seatwork period. The teacher says, "Jane, please attend to your arithmetic," thus indicating to her that she has noticed her deviancy. Had the teacher spoken instead to Mary before Mary made a response to Jane, the teacher would have made a target mistake, indicating a lack of awareness of what was really going on. Had Mary responded to Jane, and the teacher called attention only to Mary's deviancy she would have made a timing mistake. Had the note been intercepted by Jimmy who then became the object of tugs and pulls by Mary and Jane, the teacher's attention to the matter would have been too late in the sense of its having become a serious deviancy before action was taken, and presumably, in the pupil's judgment, before it was noticed by the teacher.
2. "OK, Brad, cut that out," snaps Mr. Long, just as Brad's arm begins its descending arc, too late to prevent the release of the eraser, which flies across the room. "Pick that up and put it back on the tray--and don't do it again." "Why pick on me--I'm not the only--" "Just don't do it again," interrupts Mr. Long. Mr. Long's desist order was issued at a particular point in time; in fact it came at the end of a sequence of pupil behavior in which Brad was the last of four boys to have received the eraser in a game of catch. Nothing in Mr. Long's behavior indicates that he was aware of the earlier acts in the sequence, although he may have been. To be effectively aware, the teacher must communicate his withitness, and must do so accurately.

Implicit in the term "teacher awareness" is the criterion of accuracy. Variables affecting pupils' assessment of the accuracy of the teacher's observations are target and timing mistakes. Target mistakes are made when the teacher blames the wrong person for a deviant act, or calls attention to a minor deviancy while a more serious one occurring concurrently goes unnoticed, or is not mentioned. Timing mistakes occur when the person identified with the deviancy is not the one who originated it or when a deviancy increases in seriousness before the teacher indicates an awareness of it. (Kounin, 1970, pp. 79-82)

Teacher Flexibility (Overlapping)

Definition:

A dimension of teacher behavior that deals with the way she handles two or more issues at the same time. (Kounin, p. 85)

Indicators:

1. Two classroom events are vying for teacher attention: an ongoing activity in which the teacher is involved and a child-intrusion activity.
2. The teacher makes one of the following overt acts (a remark, a direction, a look): (a) she gives attention to both issues during the event; (b) she becomes immersed in one activity at the exclusion of the other.

Illustrations:

1. A child from the seatwork setting, Mary, approaches the teacher with a paper in hand to show her while the teacher is working with a reading group, thus giving the teacher two issues to deal with: the ongoing reading task and the child with the "Bring-in." The teacher shows overlapping by glancing at Mary, continuing to listen to John's reading for a few seconds, then telling Mary to "wait a minute" while resuming listening to John. (Kounin, 1970, p. 87)
2. Miss Jones is helping a small group work on some common difficulties in division of fractions when she is distracted by conversation between two boys on the other side of the room. "What's the trouble, John, do you have to talk now?" "I was just asking him a question," says John. "About what?" John begins to explain his problem and why he had been seeking information from the second boy. Miss Jones listens, asks more questions, gets up and moves to the other side of the room and continues to converse with John. The original work group wait for her return, begin to talk quietly among themselves.

Teacher behavior may include paying attention to each of the issues simultaneously or immersing herself in only one while ignoring the others. Paying attention might be a remark, a direction, or a simple look. (Kounin, 1970, p. 85)

Group Goal

Definition:

A stated or implied commitment widely subscribed to by the members of a group that a given outcome or objective will be striven for by the group as a whole. The existence of a group goal suggests willingness to invest resources of the group in its attainment, and therefore an implied high priority. There is not necessarily any strategy implied for the acquisition of the goal, however, by the fact of its existence.

Indicators:

1. A group goal, like any other, must have a high degree of clarity. A classroom group can establish a goal to "honor 4th grade of the month" with greater clarity than being simply "the best class in school," etc.
2. Goals only become group goals if they achieve broad acceptance among members of the group, although consensus is not required. A goal would not achieve that status if it fails to be accepted by members of a significant subgroup in the classroom.
3. If a goal advances to the level of a group goal, there is an implicit commitment to expend energy, time, intellectual and other resources to its achievement.
4. In a similar vein, the goals a group holds are limited in number. Each goal may be subdivided into numerous subordinate elements, but "goals," itself, refer to central and major purposes of a group.
5. A goal may lead to outcomes for one member of the group, for some, for all, or to outcomes for others. Thus a group may strive to send five poor children to summer camp, to win the intramural basketball championship, or to produce the best essay in a contest.

Illustrations:

1. On Spring Day each English class in the junior high school can give a 10-minute skit which it has written and produced. Mrs. Swensen's fourth period 8th graders have decided they will win the Spring Day Award by writing the funniest and most original skit of any participating group. They devote each class period for a month to this goal and several sub-committees meet after school to get ready for the event.
2. Mrs. Swensen's third period class has a different approach. Doris and Jean made excited talks to the class the day the competition was announced and most of the girls voted enthusiastically to develop a skit. So did one or two of the boys, but a larger number of them privately thought this was a girl-type activity, and some of the girls would get all the credit anyway. Mrs. Swensen has permitted them to use English class time for planning their skit, but little seems to be accomplished.

Group Structure

Definition:

The relatively stable organization of relationships by which are known the positions of teacher and pupils in relation to each other, and appropriate forms of interaction between them.

Indicators:

1. Differentiations conventionally perceived between the status and role of the teacher and the status and role of the pupil indicate group structure.

2. Differentiations in status in a role among pupils, as groups of pupils are organized for various functions, as in work groups or committees are characteristic of group structure.

Illustrations:

1. In Mr. Palmer's classroom, the children sit in straight rows, facing the teacher's desk which is in front. Almost all interaction is initiated by Mr. Palmer, extended interaction usually transpires between Mr. Palmer and one student. In order to respond to questions put by the teacher, or to speak in general, pupils must seek permission by raising their hands. There is very little interaction among students.
2. On the walls of Miss Phipps' sixth grade classroom especially at the front are various charts, lists, and tables. One chart displays the weekly schedule; the time for each subject on each day of the week. There is a list of workers--pupils with special responsibilities such as chalk-board monitor, paper monitor, pencil sharpener etc. There is also a list of classroom rules. Another chart indicated the members of the three reading groups and still another lists the membership on the various classroom committees.

   As the children work on a set of arithmetic problems, Miss Phipps studies the committee chart, and then asks "Sandy, does your library committee have anything to recommend yet?"

   Sandy shakes her head. "We couldn't think of anything good. All the good books we thought about we've already got."

   Miss Phipps says, "Class, the library committee needs some ideas. If you have any suggestions let Sandy or someone on her committee know. Not now, Bill. Finish your work, first."
3. The desks in Mr. Korb's room always appear to be arranged randomly. Often there are several groups of two or three pupils working together on the same task. These task groups may stay together for different lengths of time, ranging from part of a single day to most of several days. From time to time pupils work alone on individual tasks. Mr. Korb is usually observed conferring with groups or individual pupils who have requested his assistance.

Morale of Groups

The concepts defined and analyzed in this section relate to two general dimensions or aspects of group achievement: Morale and Control (or Integration). Significant concepts related to both dimensions have been chosen for exemplification in the catalogue, and these concepts have been categorized under each dimension as pupil outcomes, referring particularly to pupil group behavior, or as teacher behaviors, referring particularly to teaching behaviors in relation to the classroom group.

Group Morale is an aspect of group achievement that is defined as freedom from restraint in action toward a goal. Freedom from restraint is freedom to act, freedom to interact, freedom to reinforce expectations. Morale is a neutral condition and a relative one. It may be described as high or low relative to another point in time, another state, another group.

The goal direction of group activity and its freedom from restraint are the essential factors in Morale. It is from an analysis of these two factors, Goal Direction and Freedom from Restraint, that variables in teaching behavior and pupil group outcomes were derived and selected as concepts for inclusion in the catalogue. Following are the concepts included under Group Morale.

Appraising Group Effort

Definition:

The provision of explicit or implicit evaluative feedback with respect to group behaviors and the direction of those behaviors. The behaviors appraised usually relate to goals or procedures and the appraisal may be positive or negative, personal or according to public criteria.

Indicators:

Appraising group effort can be indicated by one or more of the following teacher behaviors.

1. Teacher reprimands without public criteria. Example: "This last batch of homework is the absolute worst I've ever seen."
2. Teacher serves as judge and renders a decision based upon his own criteria when there is conflicting direction of effort in group. Example: "Some of you want to do a mural, some of you want to make a rack display, some of you don't know what you want. Let's do the rack display."
3. Teacher appraises effort by threatening or accusing. Example: "If you don't work faster, we won't get any recess." "Didn't you know you can't just march into the principals office."
4. Teacher gives simple, positive appraisal without specifying reasons. Example: "That was a pretty fair discussion we had yesterday."
5. Teacher reprimands group with reasons given. The reasons may be societal, situational, or specific to standrads known to group. Example: "Don't all talk at once. We need to be able to hear and consider all these ideas."
6. In a conflict situation within a group, the teacher delegates the judgment to the group and turns back the problem and responsibility for appraisal to the group. Example: "Some of you want to do a mural, some of you want to make a rack display, some of you haven't expressed your preferences yet. What do you think might be a step to take now to move us along?"

7. Teachers' appraisal, if negative, offers support simultaneously. Example: "That sounded pretty bad, folks. But this is a difficult song rythmically. Let's take it a little slower, a little easier."

Source:
George L. Miller. The Collaboration Scale for the Analysis of Teaching: Responsive-Directive Dimension. Mirrors for Behavior, Vol. 3

Emotionally-Supportive Behavior

Definition:
Verbal or non-verbal teacher behavior that communicates concern for students feelings. It includes all teacher activity designed to boost student morale, show esteem and offer praise for actions or expressions not related to classroom tasks. Such teaching behaviors may include the teacher's observations or assumptions about students feelings, but does not include his reflecting or commenting on emotions that students have actually expressed in the classroom.

Indicators:
Emotionally-supportive behavior is indicated when a teacher:

1. Notices or recognizes an emotional state in the group, e.g., joy, sorrow, boredom, anxiety, frustration, chagrin, excitement, and communicates that awareness to the group.
2. Anticipates the feelings of a group or makes assumptions about the feelings of a group.
3. Frees the group to react with its own feelings toward an object, person, or event independently of the teacher's expectation.
4. Offers praise to the group for actions or expressions not related to specific classroom tasks.
5. Shows respect for the group as an aggregation of human beings with needs for comfort, affiliation, and achievement.

Illustration:
Teacher enters classroom a few minutes late. I'm sorry I'm late. There is a group of Japanese teachers touring the building, and I stopped to talk with them briefly."
Students: "What are they looking at?" "Will we get to see them?" "Are they going to come in here?"
Teacher: "I get the feeling that you would like to have one or two of them visit the class and tell us what they are doing here and what they would like to know about. Is that right?"
Students: "Yes. The panel discussion isn't ready yet anyway."
Teacher: "Well, I agree that this is a chance we don't get everyday. I'm sure they will appreciate your offer to talk with them. How about shaping the place up a little while I go to get them."

Exploratory Behavior

Definition:

Behavior characterized by activities designed to find out more about something. In classroom groups these exploratory behaviors may be indicated as expressions of thought processes or in overt physical activity. The primary meaning of exploratory behavior is an unrestricted search, prompted by curiosity, and guided by the desire to find out more.

Indicators:

Exploratory behavior by the group may be indicated by one or more of the following:

1. More than half the group under consideration investigates various sources of information available in the classroom when working on a common problem.
2. Several pupils in the group under consideration (20% -25%) raise questions that open new directions for the discussion.
3. Several pupils in the group under consideration (20% - 25%) make statements that show fresh insights or draw on unusual material.
4. Several pupils in the group under consideration (20% - 25%) venture hypotheses about relationships between attributes of content or the classroom social scene.
5. More than half the group under consideration are working with at least one other person on problems, projects, or performing experiments.

Illustrations:

Pupils in an earth science class are engaged in investigating various sources of information to find out something of the nature and origin of a unique formation of red rocks on the east face of the Rocky Mountains near their city. Three of them are looking at a geologic map of the area, several more are scanning reference books in the book area; two students are studying rock specimens; four are engaged in discussion with the teacher; the remaining ten students are working at their desks.

Student to Teacher: "I know it's sandstone, but that's all I can find out."

Another Student: "The rocks are so red--different from the other specimens. I wonder what it is that gave that special deep color?"

Teacher: "Your curiosity about the color may provide a good clue for us. I think that some organisms added color to the earth when they fossilized."

Student from rock specimen table walks up to join group. "Did you say fossils? There are some in there all right. Fish and shells!"

Another Student: "On rocks standing straight up in the air? Hey - wait. I've got an idea. C'mon let's check it out."

Sources:

Robert Travers, Educational Psychology, latest edition.
Bruce R. Joyce and Richard E. Hodges, "Instructional Flexibility Training," Journal of Teacher Education, 17: (4) 409-15. Winter, 1966.

Fairness

Definition:

The state or quality of treating persons in a way that is free from bias, dishonesty, and injustice. In group context it means following a consistant standard of equal treatment toward all students in the group.

Indicators:

Fairness as a teaching attitude toward the group is indicated when:

1. The teacher praises students' ideas rather than students personally.
2. Praises the group when expectations or goals are met and corrects them with explanation when the group errs or misbehaves.
3. Asks for clarification and explanation of reactions that run counter to teacher expectations rather than disapproving, blaming, or criticizing out of hand.
4. The teacher avoids capriciousness, giving breaks one day, withholding rewards the next.
5. The teacher avoids praising group when it doesn't deserve it and praising habitually, meaninglessly.
6. The teacher does not become the captive of the group, yielding to people not ideas.

Source:

O. J. Harvey, "Belief Systems and Education: Some Implications for Change."
Nancy St. John "Thirty-Six Teachers," AERAJ, 1971.
Walberg and Anderson, "Classroom Climate and Learning" Psychology in the Schools, 1970.

Group Frustration

Definition:

A psychological state descriptive of a group that has been restrained or blocked in its movement toward a goal. Group frustration is inferred from the overt reactions that presumably accompany frustration.

Indicators:

Any or all of the following may be indicators of group frustration:

1. Goal-directed activity by the group as a group diminishes. Task orientation disappears.
2. Responses from the group become rigid, fixated. Exploration ceases; imitative behavior increases.
3. Emotional reactions such as hostility, anxiety, apathy, withdrawal become frequent among group members.
4. Friction develops among group members; group cohesiveness disappears; factions emerge.
5. Disruptive, tension-relieving behaviors are demonstrated by a large number of group members.

Illustrations:

A senior high school class had decided to do a comparative and qualitative study of the economic systems of China and the USSR. One group held that the Chinese adhered more closely to the practices dictated by Communist theory and fared better; the other interpretation of Communist doctrine offered a better way of life for the citizens. A date was set for the Great Debate, and every member of the class had been persuaded to join in digging for facts that would support his teams' thesis. For two weeks the libraries at school and in town were scoured for evidence. The Chinese group met with the debate teacher to get some fine points on the art of persuasion. The morning after the meeting with the Debate teacher, the principal appeared in the classroom. He said he had something of a serious nature "to discuss with young men and women about to take their roles as citizens in America." In short, he told them that while he was principal of that school, no debates extolling the virtues or benefits of any Communist nation would take place. Why hadn't they compared America to China or the Soviet Union? One group could switch, he suggested, and he would like to hear the debate. After he left, the teacher suggested they forget the whole thing or perhaps just write up reports. One boy picked up his pages of notes, tore them down the middle, stomped to the wastepaper basket and said, "Well, so much for that." Another said, "How come you didn't tell him where to get off?" Still another said, "Big deal. I suppose now I'll flunk Debate class. Me and my big mouth." Someone crumpled his papers into a ball and slapped them toward the basket. Others followed his lead.

Source:

Bany and Johnson, Chapter 10.

Group Goal-Oriented Activity

Definition:

The complex of seeking, decision-making, and implementing activities engaged by the class as a group that direct the group toward preferred end point or state of affairs.

Indicators:

Group goal-oriented activity may be indicated at different stages in goal attainment by one or more of the following:

1. The group as a group decides on a desired group outcome or group goal. Not all members of the group need participate in the decision but a sufficient number must participate in setting the goal or agree with it explicitly or implicitly so that it can be validly described as a goal of the group. The goal obtained, a response desired from a person or another group, or a general feeling, such as enjoyment, excitement, or shared pleasure of success.
2. The whole group engages in considering approaches to the goal and selecting an approach.
3. The entire group participates in division of labor to implement the goal decisions.
4. The group as a group attempts to maintain groupness when hidden difficulties or individual member dissatisfactions arise.
5. The group recognizes when the goal has been attained and gives an evaluative reaction to the final outcome in terms of their original expectations.

Illustration:

The Spring "Back-to-School" night is under discussion in a fifth grade class and the teacher and pupils are trying to come up with a room display that will show parents what the pupils have been doing in class. Several ideas have been expressed--an historical mural detailing the opening of the western frontier, bulletin boards of the best work in art, spelling, and science, and a light-up answer board in math. None of these ideas have sparked the enthusiasm of more than two or three pupils. Finally one student suggests that their study of the oceans in science was something that everybody liked and learned from.

Other Students: "Yeah--the ocean. I liked all those neat shells Kim brought. And the star fish and the sponges."

One Girl: "Couldn't we finish that salt model of the ocean floor?"

Teacher: "Good ideas. The ocean. Now, let's see, just what would be on display? Your reports? The books? The model and shells?"

Student: "No reports because only the best handwriters get chosen. Only things to see and touch."

Another Student: "Carol and I would like to try to fix up the salt model and someone could help us."

Teacher: "Seems as if you're getting things pretty well organized now. There are still a lot of you that haven't said anything yet. Are you all interested in doing oceans for the project?"

One Girl: "I liked the western mural idea better. It's more colorful and more people can work on it."

Another: "No, they can't. It's just because you can draw."

Another: "Well, I know! There can still be a big mural across the front--with fishes and stuff and the drawer can do it!"

Another: "I've got a big fish net we can put up in one corner."

Teacher: "OK, let's do it..."
In setting up the displays the pupils consciously contribute to the goal objective by bringing items, arranging and labelling items, consulting cross-sectional maps for the salt model, mixing the salt paste, climbing ladders to fix the fish net, mixing paint for the mural drawing, painting, and finally arranging the window shades and chairs to show off their work to best advantage. When the final touches are complete, they stand back and look at it.
Student: "This is super. I bet it's the best in the school."
Another: "This is lots better than I thought it would be. Let's be sure our parents come to see what we did."

Level of Interest

Definition:

An inferred measure of the degree to which classroom activities are stimulating, motivating, and satisfy the needs for achievement and affiliation of members of the group.

Indicators:

The level of interest is indicated by the proportion of students in a group who:

1. Respond spontaneously vs. those who respond reluctantly or not at all.
2. Direct courteous remarks to the teacher vs. those who make rude or hostile remarks.
3. Receive corrective feedback positively vs. those who are irritable with correction.
4. Work intently with little attention-wandering vs. those who are restless, doodle, daydream, whisper, gaze about.
5. Promptly take part in activities vs. slowly take part in activities.

Illustration:

The seventeen 7th graders opened their geography books to the chapter on the Pacific Northwest and the teacher asked for a volunteer to read the paragraph on "Products of the Willamette Valley." No one volunterred. She called on Gloria, "Why do you want me to read it? Can't you read?" The teacher then asked Rita to begin. When Rita mispronounced Willamette the second time, the teacher corrected the pronunciation. Rita responded, "So, who cares?" While Dan plowed through the next paragraph on dairy products, the rest of the students were engaged in their own interests--combing their hair, inching their desks backwards, drawing on the desks, reading comic books, whispering, and sleeping. The teacher, sensing less than enthusiasm, suddenly suggested that they work together to draw a map of the Northwest and color in products at appropriate locations. She asked for volunteers to clear the tables, get out the roll of paper and the crayons. Carol and Becky finally raised their hands. When the materials were out, four or five students got up and fingered the crayolas. It took a command to get the rest moving to the work tables.

Source:

Denny, Rusch, Ives, Classroom Creativity Observation Schedule in Mirrors, Volume VIII, #41.

Restrictive Teaching Decisions

Definition:

Those observable behaviors that reflect an expectation-sanction system built around the teacher's needs satisfaction or his classroom role expectancies.

Indicators:

Restrictive teaching decisions are indicated when the teacher's behavior:

1. Reflects rigid teacher expectations for group behavior.
2. Rejects or proscribes the learners' meanings.
3. Promotes convergent, non-evaluative group behavior.

Illustrations:

1. "I can tell you right now, "I'm not your nursemaid. I'm not going to pick up after you."
2. "I think Tom should run the discussion on room responsibility, and I think you should consider only three important items: One, the Science Corner: Two, the sink area; Three, the hampsters."
3. "I think that one of the things that might save this society is to start from kindergarten on up to teach kids how to detect this inundation of garbage upon them in the schools. Now, how do we get to this?"

Source:

Macdonald, James B. and Esther Zaret. "A Study of Openness in Classroom Interaction," in Ronald T. Hyman (ed.) Teaching: Vantage Points for Study, New York: J. B. Lippincott Co., 1968.

Task-Oriented Behavior

Definition:

That which is guided predominantly by the intent to help move the group toward its goal. The teacher is concerned with group process rather than with personal needs or ritualized role performances.

Indicators:

Task-orientation is indicated when the teacher's behavior:

1. Reflects flexible expectations for group behavior.
2. Accepts and expands on pupils' responses.
3. Promotes divergent, evaluative, and choice-making learner behavior.

Illustrations:

1. "Well, sure, you could try that approach if you would like. It's different from the way I've usually done it, but it might work out even better."
2. "O.K. So, in reaching a decision you are saying it makes a difference how much people talk, and some of you said it depends on how strongly people are arguing and exchanging ideas. Do you think time has anything to do with reaching a decision?"
3. "What do you people think underlies the reason for the institution of law in a society?...You've suggested some provocative notions about man and society and the law. Do you think that considerations of the nature of man take precedence over considerations of the nature of social institutions?"

Source:

Macdonald and Zaret, "A Study of Penness in Classroom Interaction."

Nonvoluntary Group

Definition:

Classroom groups are nonvoluntary in nature. Pupils are assigned without consultation to given rooms for purposes of learning subject matter which they have no voice in selecting. The people with whom they associate in the classroom, with other pupils and the teacher, are similarly assigned. The nonvoluntary nature of the classroom group extends to the point that the student is under the control of a teacher in whose selection he did not participate and with regard to whom he has little formal influence or power.

Indicators:

The existence of a nonvoluntary group is indicated by presence of the following characteristics.

1. Pupils are assigned to physical classrooms for purposes of undertaking activities (learning school material) about which they have no voice.
2. The pupil is placed with other pupils for extended periods of time without having any participation in their selection.
3. The same state of affairs holds for all pupils.
4. The assignment of the teacher is imposed upon pupils.
5. They are subject, at least formally, to the kinds of tasks the teacher assigns them to perform, and the methods by which he demands they be executed.
6. From the teacher's point of view, his assignment may or may not be nonvoluntary (teacher may request 5th grade, but by given class X not Y).

Illustrations:

1. Mr. LaRue teaches English at Oak Knoll High School. Last April he requested a section of the senior honors course in English Literature for his fall teaching assignment. The principal informs him that because of his excellent work with lower track pupils, he has been reassigned to those sections. Besides, Mrs. Haughkatler, who has taught at Oak Knoll since it opened 33 years earlier, wishes to continue with the honors classes.
2. Tommy is a fourth grade boy. He does not read very well, and Ms. Kohl assigned him to the lowest reading group. The book is dull, and he has to spend long periods every day writing in a workbook. Despite all this, he likes Ms. Kohl very much. The problem is that all the tough boys are in his reading group, and almost every day Tommy is hit, kicked, poked, and threatened by one or more of them. He has complained to Ms. Kohl and his mother, but nothing has changed.

Norms

Definition:

The behavioral values shared by members of the classroom group; beliefs about what the members or others ought to do under given circumstances. Norms are evidenced by sanction patterns, or social processes by which deviance is punished and conformity is rewarded.

Indicators:

1. Norms may be distinguished form formal rules. Classroom rules may restrict "talking without permission." However, the norms which emerge out of classroom activities may permit a good deal of talking without negative sanctions by either teacher or the pupils.
2. Whether a group member's behavior is sanctioned, and the intensity of the sanction, may be a function of his status in the group. A high status pupil, for example, may deviate considerably from a norm before sanction in invoked.

Illustrations:

1. In the fifth grade class a strong norm has developed against tattling. When a piece of equipment is discovered to be missing, the teacher attempts to get information from the pupils about who may have taken it. Her queries are met with silence, even though several pupils know who took the item. Finally, a boy says, "I know who did it." His statement is met by whispered threats and condemnation: "Snitch" "Squealer." "You lie, Freddie, you lie." "You're gonna get it."
2. In Mr. Johnson's seventh grade arithmetic class a strong norm has emerged emphasizing high performance on tests. Associated with this norm is a high level of competitive effort, which has been

given expression through the organization of math work teams. Teams are ranked by their "scores," the mean score of team members on the regular classroom tests. Each team has a leader, selected by his team mates on the basis of his ability in math and his helpfulness to team members during practice sessions. Ed, the leader of the first-place team, has unexplicably "bombed" a test, with the result that the team drops into second place. After discussion, the team members decide not to replace Ed as leader. They reason that this instance is a fluke, that Ed's leadership has been good in the past, and that he can be counted on to help them recover: "Ed deserves a second chance."

Productivity of Groups

Divergent Productivity

Brainstorming

Definition:

An approach to divergent thinking to generate multiple suggestions for a topic, or multiple solutions to problems. The topic or problem is presented and members of a group offer their ideas about it. Brainstorming groups are restricted in size to not more than 7 or 8 members. Rules of brainstorming are for the contributor to be uninhibited in making suggestions; evaluation of ideas is suspended until the end of the session. Others' ideas can be modified and elaborated. Most research evidence suggests that more ideas and more original ones result when people work individually under brainstorming conditions than when they operate as an interacting group.

Indicators:

1. The pupil or pupils have a problem to solve that requires new solutions or multiple attacks.
2. Brainstorming may occur in groups (of 2 to 8) or be done by individuals. Pooled results of individuals usually produce more and better ideas than if the same pupils had worked collectively.
3. An individual working alone is encouraged to express and record his ideas freely leaving the processes of criticism and evaluation for a later time.
4. Similar to #3 above, pupils in groups are discouraged from evaluating ideas until the idea generating (brainstorming) session has been completed.

Illustration:

At the close of a month long study of the Westward Movement, Mr. Allen tells his fifth graders that every year in the past his classes have given individual or group reports on their projects. "This year," he tells them, "I'd like you to do something different. Each of you take a sheet of paper and write all the ideas you can think of for sharing what you have learned. Put down all your ideas--there will be time later to take off those you don't like." The children write, and later, Mr. Allen categorizes the ideas and presents them to the class for discussion.

Group Problem Solving

Definition:

Involves two or more pupils in collective action to discover or to achieve an answer or a solution to a problem or set of problems. Group problem solving tends to be highly correlated with the achievement of the most able group member when little or no division of labor is possible. When such division is possible, the time to complete tasks in a group may be shorter than for individuals, and the number of correct solutions is frequently larger in groups than for matched individuals.

Indicators:

1. Pupils work in a group to achieve consensus about solutions to a common set of problems.
2. When the problems are not divisible into parts that can be worked on simultaneously success of the group will be closely related to what the most able member could achieve working alone.
3. When a clear division of labor is possible, groups can perform tasks more quickly than matched individuals.
4. Transfer of training is no greater for pupils who have worked in groups than it is for children who have worked on problems alone, even though the group solves more problems correctly.

Illustration:

Mr. P. decides to have his 4th graders work together in small groups on arithmetic problems. At the end of the period he is delighted to see that the children have correctly solved 15 or 17 of the 20 problems assigned, when often many of them solve only 8 or 10. He decides to have the groups work together more often, but the next time they do problems individually Mr. P. observes that the less talented pupils still achieve at their level.

Inquiry Teaching

Definition:

Inquiry teaching begins with a question or a problem which the leader cannot solve or explain. The problem may be learner--or teacher-initiated. Inquiry teaching demands that the teacher assist the learner in achieving solution without providing him directly with the solution. At least two approaches are possible, and they are not mutually exclusive. One is to encourage questions of an experimental or testable nature, to which feedback can be supplied. The other is to arrange or structure problems so that solution of one subelement leads to the presentation and clarification of the next. Inquiry teaching demands that sufficient structure be imposed upon the learner's activity to render it predominantly relevant and productive. It contrasts sharply with pure discovery learning in which the scientist or original investigator must ferret out relevant variables and observations from an undifferentiated environment.

Indicators:

1. Inquiry teaching is a procedure for encouraging divergent questions and responses from pupils. This is so because the information immediately or directly available to the learner falls short of leading him to the solution. Additional queries or alternative approaches must be attempted.

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2. Inquiry teaching is not indicated by traditional textbook problem solving, in which a formula may be rather routinely applied to data to generate answers. However, this distinction must be carefully drawn. The central difference is found in the prior specification of a formula or procedure, for which problem solving is cast as a form of practice.
3. The teacher helps to structure or delimit the problem so as to make it manageable. Inquiry teaching contrasts with pure discovery learning which is engaged in by mature scholars and scientists.
4. The teacher may also develop aids to the inquiry process, such as stressing systematic record keeping, and other means to organize information and reduce demands on memory.

Illustration:

Children are shown a brief film in which a metal spatula is held in a flame, and it bends downward. It is then immersed in water, and regains its initial form. Then flipped over, the blade is once again held in the flame. This time it bends upward. The film ends with the question, "Why did the strip bend and then straighten out again?" The teacher leads the children to ask questions that will enable them to explain the phenomenon. Part of the strategy is to analyze the episode, that is to verify the facts of the film. The children must ask questions that can be answered "yes" or "no," and the teacher helps organize the answers into a systematic, tabular form.

Learning by Inquiry

Definition:

Established when a pupil or group of pupils are confronted with a phenomenon or outcome for which they have no immediate explanation, and for which neither the teacher nor instructional materials offer an explanation. In learning by inquiry the pupils must apply rules of logic and/or scientific method to obtain and to organize information that will contribute to an explanation of the phenomenon or consequence. As a practical matter, learning by inquiry in schools must usually be carefully programmed by the teacher to avoid aimless manipulation of data or variables by pupils.

Indicators:

1. Inquiry learning necessitates that the learner(s) be confronted with an event they are unable to explain.
2. Inquiry learning also necessitates that a methodology or set of procedures be available that can channel the pupils' intellectual efforts in productive ways.
3. Divergent thinking, asking questions, offering hypotheses and suggestions that would lead in numerous different directions, if followed, is characteristic of inquiry learning.

4. Inquiry learning may proceed individually or in groups.
5. Inquiry learning can be conducted in a variety of curricular areas; certainly in arithmetic or mathematics, science, and the social studies.

Illustration:

5th graders view a brief film in which a large container with 3 holes in it spaced from top to bottom is filled with water. Water spurts from the three holes in arcs of different magnitude. The film ends with the question, "Why does the water go farther from A than from B and C?" (These holes are labeled on the film.) The children then engage in systematic question asking designed to give them information about conditions and events. The teacher will only answer questions "yes" or "no" which constrains pupils to formulate their questions in answerable form. Finally the children employ the knowledge gleaned from their questions to propose that the pressure differs from one depth to another thus accounting for the different streams from the container.

Providing Unevaluated Practice

Definition:

The purpose of unevaluated practice is to encourage pupils to learn new ways of being academically productive. When practice is unevaluated, learners can be free to develop procedures of their own to solve problems, or to try methods which are novel to them. Such expanding of forms of intellectual endeavor would clearly contribute to divergent productivity. "Unevaluated practice" refers not only to the absence of criticism or feedback from the teacher, but from peers or others as well. Often the source of threat to a learner is his peer group, rather than an interested adult.

Indicators:

1. Unevaluated practice means exactly that. The product is not reviewed or assessed by anyone except the producer.
2. This may sometimes mean the pupil requires privacy for his production.
3. Unevaluated practice is important, particularly early in the stages of learning a new appraoch or developing an untried one.
4. Suggestions for the product (or its use) may be supplied before or after the time for unevaluated practice. That is, it should be understood that unevaluated practice is one component of a larger sequence in encouraging divergent productivity.

Illustrations:

1. Ms. Abt, the art teacher, has been demonstrating clay modeling to the 5th grade. Each child now has clay to work with. "Try several different things," Mrs. Abt suggests. "You can always reshape clay. Try something 'way out.' Nobody's going to see it unless you're pleased with it. Do one; then collapse it and do another."

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2. Mr. Guinnot's juniors have been studying sonnets. They are to compose one of their own. To the teacher, many of the students seem uncertain and apprehensive, especially the boys. "Okay," says Mr. G., "give it a whirl. I want you to have the feel of a sonnet. There'll be no grade for this. Let me see it or you can read it to the class if you want to. But I want everyone to try it--at least do one."

Soliciting Divergent Thinking

Definition:

Questions from the teacher tend to structure the form or type of responses offered by pupils. When the teacher's questions call for divergent thinking, that is, when the questions are open-ended so that no specific and predetermined answer is expected, pupil responses tend to be divergent. At least one investigation* has shown that moderate amounts of divergent soliciting by teachers results in disproportionately large numbers of divergent responses from pupils.

Indicators:

1. To solicit divergent thinking means to ask a question that has no known single correct answer.
2. Pupils' responses to divergent soliciting tend to be divergent.
3. When teachers' solicitations of a divergent nature occur with relative frequency, pupil responses are heavily divergent.
4. Infrequent divergent questions are followed by markedly fewer divergent responses.

Illustration:

In a junior high school social studies class studying American history, the teacher asked, "What would happen if the United States were colonized from the West coast to the East instead of vice versa?" This question triggered 15 or 20 answers, each trying to suggest a consequence that might have ensued in that event.

*Gallagher and Aschner, 1963.

Regulated Productivity

Closeness of Supervision

Definition:

Refers to the degree to which the teacher restricts the freedom of learners to choose activities and means of conducting them. In close supervision the teacher frequently checks on the activities of learners and issues detailed instructions about how the activities are to be executed.

Indicators:

1. The teacher makes most of the decisions in the classroom. This would extend to relatively minor matters as well as to broader and more significant areas.
2. Learners are rarely able to escape from the supervisory aspects of the teacher's behavior. The supervisory presence is ubiquitous.
3. The teacher issues detailed orders.
4. The teacher checks up frequently, not in a spirit of helpfulness, but one of determining whether orders are faithfully executed.

Illustration:

Mr. LaTrobe teaches algebra at Penn Jr. High School. He explains a method for solving problems and provides an outline and example on the board. As pupils work at their desks, Mr. LaTrobe supervises, roaming the room to correct those who depart from the model.

Direct Influence

Definition:

Refers to behavior by the teacher that limits the range of alternatives which are available to pupils. Direct influence may recommend, suggest, or command that certain courses of action are open or closed to pupils. Direct influence has been shown to improve pupil productivity when goals are well established, and courses of action are clearly defined and understood (as in regulated productivity). Conversely, direct influence may interfere with pupil productivity when such goals and courses of action are not clear or fully determined and understood.

Indicators:

1. Direct influence refers to teacher behavior, not to influence attempts by pupils or others.
2. Direct influence is characterized by its restriction of pupil behavior. It includes such specific categories of behavior as lecturing or giving directions, criticizing the behavior of pupils, or justifying the teacher's action, decision, authority, and the like.

3. Direct influence is positively related to pupil productivity when pupils are psychologically ready to be guided by information or direction as when goals are clarified and accepted.
4. It may be destructive of productivity if imposed at inappropriate times. That would be the case when pupils are unclear about the larger goals they are trying to achieve, or the broader outlines for pupil inquiry, etc. The use of direct influence at inappropriate times or under inappropriate conditions may result in confusing frustration for pupils.

Illustrations:

1. Ms. A. is providing instructions to her seventh grade history class about coloring a political map of the United Saates as it existed in 1860. Groups of states which entered the Union simultaneously (e.g., the 13 original states) or which were acquired by purchase or treaty simultaneously (the Louisiana Purchase, etc.) are to be colored the same shade. States which belonged to the Union in 1860 are to be labelled, and the year of their admission indicated.
2. "You now know how to extract the square root of a number," Mr. X informed his math class. By class time tomorrow I want you to do the 20 square roots on p. 206 in the book--also the checks and be ready to put any of them on the board in class tomorrow."
3. The kindergarterners have made May baskets for Mother. Ms. Lulu, the teacher, has helped each child cut out a series of May flowers. One is to be pasted on each side of the May basket. Bartholomew has pasted 2 of his on each end. "No, dear," says Ms. Lulu, "take off this one and this one and do it as I showed you." She smiles at him, but returns a minute later to be sure it has been done.
4. "I know that some of you think I was too hard on the whole class when I took your gym period away last Friday. It's true that only some of you--you know who you are--were creating a disturbance. Sometimes a teacher has to punish the whole class for their own good, even though she would rather not."

Productivity as Rate or Amount of Work

Definition:

When there are specified outcomes to be achieved, such as a number of problems to be worked, questions to be answered, pages of an assignment to be read, or the like, the productivity of a group may be conceived in terms of the rate of output, or the amount of work accomplished in a given unit of time. Productivity, in this sense, may be inferred from the activity level of an ongoing group, as well as from product units completed. An important element of the concept of productivity is that goals and activities are specified and agreed to in advance. Productivity is thus easily inferred from activity levels or from units of work finished.

Indicators:

1. The goal to be achieved or activity to be engaged in is specified and agreed to in advance.
2. Productivity is inferrable either from an ongoing activity level in the group, or from the accumulated units of productivity, such as papers written, problems solved, and so forth.
3. Productivity may also be inferred from the accuracy or quality of work accomplished.

Illustrations:

1. Mr. Jones' third period physics class is having a problems quiz. Five minutes ago he distributed the problem sheets, and now all class members are busily hunched over their peers.
2. Ms. Schwartz assigned her ninth grade English class the task of writing an autobiography to be read in class today. As she calls the role, twelve of twenty-five students are prepared. All but three of these autobiographies are routine, brief, and unimaginative.
3. As the fifth grade class reviews its arithmetic homework, all members completed the assignment. The review and the grades recorded suggest comprehension of the work done was very high.

Productivity as Individual Achievement

Definition:

View in terms of the achievement of individual class members. In this view the tasks are not group tasks, but are undertaken by individuals. Regulated productivity is thus not a group characteristic, nor a phenomenon of the group. In a statistical sense, productivity is inferred from the degree to which individual productivity characterizes members of the classroom group. Thus, classes may have some, few, or many participants who conform to standards for productivity set by the teacher.

Indicators:

1. Productivity is inferred from outputs of individual students.
2. In most groups a broad range of individual differences will exist in productivity.
3. These individual differences may be in the rate or amount of work output, or they may include differences in the quality of products.

Illustrations:

1. Ms. F. is going over her grade book for the first ten weeks of school. She notices that of thirty arithmetic papers assigned to her twenty-eight sixth graders, ten pupils have completed all of the work correctly, but three others have done less than half the assignments.

2. In the creative writing workshop, Charles, Dorren, and Michael consistently produce high level work. Five other students show intermittent flashes of creative production, but the director of the workshop identifies several other would-be creators who are seemingly unable to manage sustained writing of any merit.

Role

Definition:

Two sets of behaviors expected to be performed by (1) the person who occupies the position of teacher and (2) the set of behaviors expected of those who occupy the position of pupils.

Indicators:

1. Classroom role expectations are defined largely by the nature of the formal social system; i.e. the legal and professional responsibilities of the teacher.
2. The formal system also induces a general set of expectations for the role of pupil; i.e. regular attendance, punctuality, completion of assigned tasks, decorous conduct, etc.
3. A variety of specialized roles may emerge in the classroom group, their nature and quantity depending upon the characteristics of the group structure.
4. The effectiveness of role performance is a function of the congruity between the incumbents' behavior and the expectations of the group which define the role.
5. As in other social situations classroom role expectations are reciprocal; that is the role of "teacher" is defined in terms of the behavioral expectations for the teacher-in-relation-to-pupils, and vice versa.

Illustrations:

1. Bill is presiding as chairman of the stage crew for the high school musical. "Thanks for the report, Marcia. It's going to be tight, but it looks as though we can almost get by within our budget. Tom, if you'll remind the hardware store about the bill on that last lumber order, we'll be in a better position to judge. I've asked Mr. Prescott if he'll let us go over on that item, but I would really like to know where we stand before I make a specific request.

   "Mary, I've asked Miss Storm if she can give us some help on those sets. She can lend you three more kids to paint on Wednesday afternoon. Think that'll get you through?

   "Let's see, Steve, suppose you be ready to tell us where we are on props by next week, OK?

   "Chuck, Mr. Bundage still wants lighting changed on the staircase scene. You guys got any ideas yet? Let's get together for a few minutes, later, OK?"

As the students leave, Tom says to Mary, "Old Bill's pretty cool, isn't he? Keeps us hustling, but no hassles. I think we'll bring this thing in on time after all."

2. Teachers communicate role expectations everyday, either implicitly or explicitly. In the following excerpt, Mr. Geoffrey indicates to his seventh graders that part of this teacher's role is that of motivator and of supervisor; the students' role is that of worker (Papers have been returned and the number of correct responses counted.)

   Mr. Geoffrey: How many would I say is good? The pupils guess at 15 to 19...

   Mr. Geoffrey: "Perhaps we should briefly speak on how well I expect you to do. Better!! If you've gotten 10, then 11, 12, or 13. If you've gotten 17 then 18 or 19. If you come in reading in fifth grade then better. All don't do the same in arithmetic...Don't look at your neighbor and say "I'm stupid, do better than in the past." (Smith and Geoffrey, p. 32)

   Or again...
   Mr. Geoffrey: "That's not all, the most important thing is doing your work for me. Some of the assignments are difficult. Let's have no nonsense on not doing work...Do your best and do it regularly...You've had a nice vacation, now it's time to get to work... School is business. Come back on Monday ready to work." (Smith and Geoffrey, p. 51)

Status

Definition:

The social ranking of pupils within the social system of the classroom.

Indicators:

Status as a social rank varies (high-low) according to the following indices.

1. The extent to which a pupil is chosen by others as a friend, co-worker, office-holder, leisure-time companion, etc.
2. The extent to which interaction with a given pupil is initiated by others.
3. The extent to which a pupil exercises influence over others.

Illustrations:

1. Cathy seems to be a favorite with everyone. She is frequently sought out as a confidante; her name is one of the first mentioned when committees are formed; her ideas are often approved and acted upon.
2. The three boys in the back row tend to be ignored by almost everybody. The teacher seldom calls upon them; they are not asked to participate in extracurricular activities; apart from each other, they have few friends.

VIII.

Individuals

INTRODUCTION: THE INDIVIDUAL

Included in this portion of the catalogue are concepts which denote characteristics of the individual that have a significant bearing on the functioning of the classroom. This list is by no means exhaustive. Numerous other "individual" concepts would need to be included in order for this part of the catalogue to be definitive. However, an important beginning has been made.

IX.

Concepts Defined in Individuals

Achievement Motivation

Definition:

A disposition to excel in situations involving some standard of excellence.

Indicators:

1. Individuals high in achievement motivation perceive that effort is an important determinant of outcome. On the other hand, persons low in achievement motivation perceive that outcome is only weakly influenced by how hard they have tried.
2. The main behavioral differences between individuals high and low in achievement motivation are that individuals in the high motive group are more likely to initiate achievement activities, work with greater intensity, persist longer in the face of failure, and choose more tasks of intermediate difficulty, than persons low in achievement motivation.
3. In any achievement situation, two conflicting predispositions which are part of everyone's personal orientation, are energized: a motive to approach success, and a motive to avoid failure. The relative strength of these two motives will vary from person to person.

Illustrations:

1. In the fifth hour English class, a few of the students always tried to do every assignment as well as they could. They spent hours in the library, read as much as they could get their hands on, and attempted different styles of writing. They weren't the brightest students in class, but they were the most dependable. They were also the students who were most concerned over their grades. Other students, some more, some less intelligent could be counted on to do only what was necessary to get by. Occasionally, they made disparaging remarks about their more diligent peers, but usually they discounted their own success or failure by references to luck or fortune.
2. Several students showed little interest in leisure reading. When they were required to take books out of the library, they usually selected ones which were too easy or too difficult. Finally, the teacher constructed a list of books of intermediate difficulty for each student, based on his or her own hobbies and interests.

Sources:

Rosen; Maehr and Sjogren; DeCharms; Weiner

Achievement Status

Definition:

A ranking in the classroom derived from a complex interrelationship of achievement and expectations of performance.

Indicators:

1. Over time each student develops an achievement pattern which is known to himself, to other students, and to the teacher.
2. Teachers tend to demand higher levels of performance from high achieving students than low achieving ones.
3. Teachers tend to reinforce high quality performance of high achieving pupils more frequently than for low achieving pupils.
4. Pupils expect higher levels of performance from some of their peers than from others.
5. In general, it appears that the higher the achievement status in the classroom the greater:
    a. the work-related activity level
    b. the distribution of rewards and lessening of punishment by the teacher
    c. the preferential treatment by the teacher
    d. the actual achievement

Illustrations:

1. Ann always seemed to have the right answer. She was often approached by her classmates for help. When there were visitors in the room, Mrs. Lyons invariably called on her to recite.
2. When they began kindergarten, there were few significant differences among the children. All were more or less active, interested, and concerned in and about everything. But by the time they had reached the sixth grade, it seemed as if there were at least two (perhaps more) classes in the room. There now were gross disparities in levels of achievement, interest, and school-related activity. Already many of those in the "lower" group had "dropped out" even if they were physically present, and it was fully expected by the teacher and their classmates, that in a few years they no longer would be in school. The teacher focused her efforts on the "higher" group.

Sources:

Cohen; Ausubel; Getzels; Smith and Hudgins.

Authoritarianism

Definition:

Reactions to authority figures characterized by unnecessary submissiveness, unwillingness to consider unusual alternatives, a black-white outlook on life, and an attribution of faults to others.

Indicators:

The folloiwng characteristics indicate authoritarianism:

1. A response set of acquiescence; overestimation of agreement with preferred associates as opposed to nonpreferred peers.

2. Intolerance for ambiguity, a need for early closure in reaching conclusions about complex issues.
3. Closemindedness, an unwillingness to examine new evidence after an opinion has been formed.
4. A tendency to isolate competing beliefs in logic-tight compartments.
5. A tendency to reject others because of their beliefs.

Illustrations:

1. She was surprised by the reactions of three of her better students during a discussion on controversial issues in American democracy. Since the first day of class, these three absorbed everything she had said. They were constantly seeking her opinions on various issues, and made consistently high grades. She had not anticipated their reaction to a classmate who offered a position on an issue one day which was diametrically opposed to theirs. They refused to consider it, became so angry they were actually shouting, and would not allow others to participate.
2. Mr. Morris had never taught in a town like this before. The students in his civics classes seem to have definite opinions about most social issues and were indifferent and at times hostile to his attempts to generate a critical discussion. He found their parents to be very similar. He left after one year.

Sources:

Marlowe and Gergen; Newcomb; Katz, McClintock, and Sarnoff; Lipset; Ausubel.

Cognitive Drive

Definition:

The intrinsic desire to know and understand, master knowledge, and solve problems.

Indicators:

1. The incentive for becoming involved in a task inheres itself is known as cognitive drive.
2. Cognitive is the reward that satisfies the drive inherent in the task.

Illustrations:

1. Most children in kindergarten and the earliest years of school seem to have an unquenchable "thirst" for information. By the time many children had reached the fifth grade, all evidence of learning for learning's sake seemed to have gone. Because of her personal convictions, the teacher made every effort to reverse this trend. Every new material, method, and A-V device that was reported, was investigated by her and used whenever possible. Although the innovations were effective at the outset, the interest soon dwindled until she was again using threats to stimulate activity.

2. Unlike his brothers and sisters who had preceded him in Mr. Smith's sixth grade classroom, John seemed to have an insatiable desire to learn. The more he learned, the more he wanted to learn.

Source:
Ausubel.

Conformity

Definition:
Adherance to expectations of others.

Indicators:
1. Conformity is evidenced by presence of expectations in the classroom.
2. The presence in the classroom of pressures to follow others' expectations indicates conformity.
3. Compliance to others' expectation is a characteristic of conformity.

Illustrations:
1. It soon became evident to Mr. Thomas, the new student teacher, that the behavior of the students in the room was carefully controlled by a rigid set of norms which had evolved among the students. Occasionally, a student would appear to deviate but this was short-lived as his peers would react immediately.
2. All of the other children in the class had reached the same decision; however, one had concluded that the others were wrong. It was a total group project and it seemed everyone should be in agreement. For the next hour, the deviant was bombarded from all sides with reasons why he should change. Finally, he gave in, but not happily.

Sources:
Crutchfield; Ausubel; Johnson.

Dependency

Definition:
Reliance on other persons and their actions for assistance and support.

Indicators:
1. Continuous attempts to obtain assistance is symptomatic of dependency.
2. Dependency is indicated by reluctance to take independent action.

Illustrations:

1. Everyday it was the same. One could predict the pattern of activity after an assignment was given. Some of the students would begin working immediately. Most would ask additional questions and then begin to work. A few would demand constant help until they had finished. On occasion these demands for help would become irritating; however, attempts to reduce the behavior had resulted in failure.
2. The next day after Mrs. Jones had attended the symposium on individualized instruction, she tried out a few of the ideas in her own classroom. A major obstacle soon appeared. Many students were unable or unwilling to work independently. So she went back to the old ways.

Sources:

Flanders, Anderson and Amidon; Sears, Nowlis, and Sears.

Ego-Enhancement Drive

Definition:

Need for a feeling of adequacy and self-esteem provided by school achievement.

Indicators:

The presence of an ego-enhancement drive is indicated by:

1. Anxiety or fear of loss of status and self-esteem
2. A concern with gaining achievement status
3. Level of self-esteem is a consequence of the level of achievement states enjoyed.
4. Teacher approval satisfies this drive
5. Most pervasive form of drive throughout an individual's academic and vocational career.

Illustrations:

1. Despite the teacher's best efforts to dissuade comparisons, this was the first reaction after report cards were distributed. The winners were obviously elated and the others were dejected, even if their grades had improved.
2. Some students seemed to be completely indifferent to the scores they received on their tests. Others prepared very carefully and were crushed if they received a lower score than they had expected.

Source:

Ausubel.

Self Concept

Definition:

The complex set of images one has of oneself on a series of dimension, such as ability, attractiveness, morality, and many others. Self concepts are formed during the years of childhood by numerous forces. Among them are the talents, and the defects of the individual. Of great importance in shaping the self concept are the interactions of the child with his environment. From these interactions he receives feedback about his relative success and failure as a student, as a child in the family, as a social being in groups at school, in the neighborhood, and elsewhere. The self concept, once formed is stable.

The self concept is important because it helps to determine the social and emotional adjustments of the individual, and his attitudes toward other things, events, and people. This, of course, would include attitudes toward school, learning, teachers, and others in the environment of the school.

Indicators:

1. The self concept is revealed through countless actions of the individual in his daily life. In school it could be reflected through attitudes toward school work, the teacher, etc.
2. Self concept is evaluative. It ordinarily is interpreted as positive or negative.
3. Self concept can change with maturation. For example, the young boy who hits an adolescent growth spurt suddenly finds himself the star of the high school basketball team.
4. People tend to approach activities that reinforce their positive self concepts and to avoid those which are punitive.

Illustrations:

1. Benny could run the 100 yard dash in 9.8 seconds, fastest on the Hilltown High track team. Algebra and physics were something else again. Whenever a quiz paper was returned with his C- or D, Benny really felt down for a few minutes. Then he'd recall last Spring's state meet, and winning the junior 100 yard event. This always made him feel warm inside again, as he waited for the time to come when he'd be running again.
2. No matter how hard Mary tried to be friends with the other children, they always seemed to ignore her or to be involved with their own friends. Mary decided she was not a very likeable or worthwhile person, and every day she sat in the classroom, doing her own work, and leaving the other girls alone.

Sex-Linked Attributes

Definition:

Physiological and behavioral characteristics on which males and females systematically differ.

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Indicators:

1. In general females are more verbal, emotional, introverted, exhibit less flexibility, and score higher on measures of neuroticism or emotional instability; males are more aggressive, active, less overly reactive to physiological stress, and stronger.
2. Standard stimuli are perceived differently by males and females.
3. Females generally exceed males on educational achievement tests in English, spelling, writing, and art; males usually score higher on tests of mathematical reasoning, history, geography, and science. (The differences are small but consistent.)
4. Females usually have higher scores than males on the following special ability tests: verbal fluency, manual dexterity, rote memory, and clerical aptitude. Males generally have higher scores than females on tests of spatial relationships, problem solving, and mechanical aptitude. (Variability within each group is, in general, so large that the practical differences between group averages is not great.)
5. In general, males exhibit greater interest than females in adventurous, mechanical, scientific, and leadership activities; females express greater interest in artistic, musical, literary, clerical, and social service activities.
6. Females have a more rapid maturation than males.

Illustrations:

1. It was the first day of kindergarten and within a few minutes, after most of the mothers had returned reluctantly home, it seemed, the children had categorized themselves. Some of the girls had found the "dress up" clothes and were imitating their mothers. Some of the boys had discovered the tracks and cars and seemed to be trying to destroy the room. Others, both boys and girls, stood around as if they were deciding whether they wanted to stay or go home. Although the teacher had provided some toys which were not sex-specific, it seemed as if they were the least attractive.
2. Most of the girls in the sixth grade had reached puberty; however, few of the boys had. Whereas in the previous grades there was a "uni-sex" quality to the classroom, now there was a clear demarcation in interests, activities, and behaviors which were deemed appropriate. Some of the less mature girls still played softball at recess, but their more "sophisticated sisters" now became spectators. And the boys, for the most part, thought they acted strange. They were no longer buddies, rather they were adversaries. Of course, this would soon change.

Sources:

Ausubel; McKeachie and Doyle; Tyler; Smith and Hudgins.

Sexual Status

Definition:

Ranking based on sex.

Indicators:

1. Generally, teacher's reactions to students are unequal and sex specific. Males typically receive a greater number of verbal reactions than females, although the difference is largely attributable to the greater frequency of negative statements. Positive or rewarding statements are approximately equal.
2. There is some evidence that girls are less active and influential than boys in classroom problem-solving groups when placed in a mixed sex group; and girls do less well in mixed-group competitive test situations than when tested alone.

Illustrations:

1. There was no question about it. Mrs. Jones was much more inclined to criticize boys for minor misbehaviors than girls. She seemed to have the image that most boys were behavioral problems and that girls were well-behaved.
2. For the most part the girls in the class seemed more passive and less outgoing than the boys. This was most noticeable when girls were mixed with boys in work groups. Rarely would girls take a position of leadership. They seem to wait for the boys to give direction.

Sources:

Smith and Hudgins; Cohen; Ausubel.

Socioeconomic Status

Definition:

Ascribed ranking in a complex social stratification system of the community composed of boundaries and patterns that vary along dimensions of prestige, power, and economic resources.

Indicators:

1. Occupational status of father is a reliable index of socioeconomic status.
2. Parents of upper class and middle class children tend to receive greater deference and respect than parents of lower class children.
3. Parents of upper class and middle class children hold positions of leadership in various community organizations more frequently than parents of lower class children.
4. Lower class children frequently lack adequate food, clothing, and shelter which adversely affects their attention to school tasks.
5. Social classes tend to share similar values. Upper class tends to share middle class values, although there is less need for striving and conforming. Typical middle class values include respectability, diligence, cleanliness, ambition, "getting ahead," acceptance in the group, conformity, and other success-oriented values. Typical lower class values are expediency, survival or subsistence ethic, and immediate gratification.

6. There is a higher incidence of desertion, divorce, and illegitimacy in lower class homes.
7. The sub-culture within which the middle class child is socialized and the sub-culture of the school tend to be congruent. Conversely, the lower class child tends to be socialized into a sub-culture which is in conflict with the sub-culture of the school.
8. Social class is correlated with grades, achievement and test scores, retentions at grade level, course failures, truancy, suspensions from school, high school drop-puts, plans for college attendance, and total amount of schooling.

Illustrations:

1. The children from the inner city schools were now being bussed to the outlying schools, thus complying with desegregation orders. Although this resolved one set of problems, it had created others. For the most part, the teachers were unprepared. They had assumed the new children would be like theirs--perhaps disadvantaged--nevertheless similar. In no event did they expect the qualitative differences with which they were confronted. Consultants were brought in and a major revision of the curriculum was made which capitalized on the cultural background of the newcomers, previous experiences, goals and objectives reinforced by the parents and a "re-education" program designed to reduce the differences between the groups.
2. One day, when the nurse was weighing the children, she noted one of the boys was not wearing socks. At first she did not see it because his feet were so dirty--black. When the teacher talked to him later, she learned he lived next door to a coalyard, slept on a cot without sheets, and seldom washed in the winter because the house did not have hot water.

Sources:

Havighurst and Neugarten; Charters; Smith and Hudgins; Ausubel; Charles; Cohen; Getzels.

Sociometric Status

Definition:

A ranking in the informal structure of the classroom based on social power and bonds of liking and attraction among pupils.

Indicators:

1. There is variation among pupils in the frequency with which they are chosen by their peers as likeable and influential.

2. A pupil is likely to choose the following peers:
    a. those with whom he has a greater opportunity to interact,
    b. those who have characteristics most desirable in terms of the values and norms of the group,
    c. those who are most similar to him in attitudes, values, and social background characteristics,
    d. those whom he perceives as choosing him or assigning favorable characteristics to him,
    e. those who see him as he sees himself,
    f. those in whose company he has experienced need satisfaction.

Illustrations:

1. The school neighborhood straddled both "sides of the track." There was a definite socio-economic division among the children. And there was a corresponding division of the friendship structure. The "better" children did not have friends across the track, and the "poorer" children stayed to themselves. The teacher made efforts to bridge the chasm in work groups, but even when this worked, it was at best temporary.
2. Larry was easily the brightest boy in the room but he also was liked least. In a class where the most popular boys were players on the school teams, "getting by" academically was the norm.

Sources:

Backman and Secord; Cohen; Getzels; Smith and Hudgins.

Teacher as Tutor or Counselor

Many of the functions that teachers execute in interactive teaching are directed toward individual pupils. Concepts about learners as individuals which are categorized in the previous section of the catalogue provide information to guide the teacher's work with individuals. Those concepts deal principally with various statuses of the individual; his status as a learner, or his status as a member of social groups and the classroom group, but also with such concepts as motivation,personal, and social adjustment. Students are also identified by their sex, and teachers are known to trust boys differently than they do girls. We might have included sex-related concepts under groups, but we concluded that they were more appropriately categorized under the individuals rubric even though the interactions between teachers and boys and girls frequently occurs in a total classroom group or small group context.

Differential Responses to Boys and Girls

Definition:

Teachers address a larger number of communications to boys than they do to girls, on the average. When the communications are classified, as positive and negative, boys receive more communications than girls do in each category.

Indicators:

1. More of the teachers' remarks are addressed to boys than to girls.
2. Boys receive both more praise and more reproof from teachers than girls do.

Illustration:

Charles A. and Beverly R. are both pupils in Ms. Reynold's 6th grade class. Charles becomes restless frequently, and he strolls around the room, talking to others, sharpening his pencil, exchanging playful punches. On occasions when he becomes too noisy, Ms. Reynolds reprimands him with a "Sit down Charles" or "Be quiet, Charles." When he behaves appropriately, Ms. Reynolds tries to reinforce that behavior with acknowledgement or praise. Beverly usually conducts herself quietly and in conformity with the teacher's expectations, and consequently there is little occasion for personal communication between them.

Learner Supportive Behavior

Definition:

Learner supportive behavior by the teacher in general communicates a willingness to deal with a topic at the level of the pupil's operations, and in an emotional climate that shows respect for his concerns or for the efforts he makes to understand, promote, or resolve the topic at hand. The teacher will often communicate support verbally, but it may also be transmitted nonverbally. At the level of concrete operations, teacher behavior that is supportive of a learner can be categorized as accepting the pupil's efforts, praising or commending them, helping him to clarify his goals or procedures, or assisting him to restructure or reformulate the problem. Learner supportive behavior is inferred from the occurrence of any of the preceding, as well as from some combination. There is no requirement that all of them appear in a given period or segment of the teacher's behavior.

Indicators:

1. The teacher attempts to determine from the pupil's behavior what he is trying to achieve, or what disturbs him.
2. The teacher communicates support for the pupil, either verbally, nonverbally, or both.
3. Through his support, the teacher creates a social-emotional climate in which the pupil can feel free to communicate, even about ideas that are not clear, or about his emotions.
4. The teacher's behavior is directed at assisting the pupil to express his thoughts, and to clarify or to restructure problems.

Illustrations:

1. Ms. Ford detects that Alice is unhappy. After class she asks Alice to stay and help rearrange bookcases. As the teacher and the teenager talk, it turns out that Alice feels left out of events at school. There are parties to which she's not invited, other girls have boys to take them to games, etc., but not Alice. The teacher listens carefully and sympathetically while they work. When Alice leaves, she is smiling.
2. Bill is having difficulty in his advanced algebra class. He seems bright, and the teacher wonders why there is so much lack of comprehension. One day when Bill is working a problem at the board, the teacher notes errors in factoring. After class in private, he discusses this with Bill who finally admits he never learned how to factor correctly in the beginning, but has been afraid to talk to any of his math teachers about it. Without fanfare, the teacher provides explanations and examples, and asks Bill to practice at home, then sees him again.